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THE

MANUFACTURING INTERESTS

OF THE

CITY OF BUFFALO.

INCLUDING

SKETCHES OF THE HISTORY OF BUFFALO.

[by George William Clinton and others]

WITH NOTICES OF

ITS PRINCIPAL MANUFACTURING ESTABLISHMENTS.

SECOND EDITION.

BUFFALO:
PUBLISHED BY C. F. S. THOMAS.
FRANKLIN PRINTING HOUSE.
1866.

PREFACE.

An edition of three thousand copies of the "Manufacturing Interests of the City of Buffalo," was published with Advertisements for the benefit of the various subscribers to the work, a month or two ago. In that edition many of the industrial interests were unavoidably omitted. At the request of a number of our citizens, a second edition of seven thousand copies has been published, embracing, as far it could be done in the time allotted for its publication, a notice of nearly all the manufacturing establishments of the city. This work, which may be claimed a history of the manufactures of Buffalo, without any advertisements, is submitted to the public, as showing the rapid strides we have been making in the last ten years as a manufacturing town. It is the aim of the subscribers to this work to give these pages as wide a circulation as possible, thereby enabling capitalists who are seeking a locality where they can invest safely in almost any kind of manufacturing enterprise, to visit our city, examine its advantages, mingle with its citizens, and decide whether we have not advantages, in almost all respects, superior to any other point in the Union.

The future of Buffalo, as a great manufacturing city, in the opinion of the writer, can hardly be pictured in too glowing tints. Her peculiar advantages have been dilated upon—and the descriptions contained in the following pages of some of our principal manufactories—give evidence that these advantages have been in some measure appreciated. As we have before said, Buffalo now ranks as the most extensive grain market in the world! We hope and believe we may live to see the day, when our city may also rank among the foremost of the numerous manufacturing cities which are now annually building up and adding to the wealth of our great nation.

Buffalo, May, 1866.

GENERAL INDEX.

Page.

Sketch of the History of Buffalo from its early settlement to the year 1847, by the Hon. George W. Clinton 1
The City of Buffalo—A Glance at its progress down to 1862, by Dr. Sanford B. Hunt 13
Buffalo—its Manufacturing, Commercial and Business Position in 1865—by Guy H. Salisbury 18
Population—each ten years, from 1825 to 1865 19
Arrivals and Departures by Lake 20
The Grain Trade 20
Elevators 21
Churches—"Old Phœnix Hotel"—Tifft House—Young Men's Association 23
Oil, Petroleum, Whaling Fisheries, &c., prepared by F. S. Pease 26
Oil Trade 27
Lard and Lard Oil, Petroleum 27
Linseed and Oil 30
Whales Fisheries 30
Oil Trade for 1865—Amount of business in Petroleum 33
Exports of Petroleum for 1865 34
Lubricating Rock Oil 35
The Iron Trade of Buffalo, from its infancy to the Present Time, and the Advantages peculiar to its location, &c., as a great Iron Mart 37
The early Iron Men of Buffalo—Judge Wilkeson—Charcoal and Bituminous Coal Iron 39
First Foundries—Edward Root—I. W. Skinner—John W. Beals—Jonathan Mayhew—Samuel Wilkeson—Sheldon Thompson—Jewett & Root—T. J. Dudley—G. B. Bull—Hubbell Bros. 40
First Steam Engine Works—Gibson, Johnson & Ehle—Gibson, Grayson & Co.—Buffalo Steam Engine Works—Eli Williamson—John Hibbard, and others 40
Anecdote of Oliver Lee, President of the O. Lee & Co.'s Bank 41
Early Iron Works—Shepard Iron Works—Engine building—Steam Fire Engines, &c. 43
David Bell's Works—Iron Steam Vessels—Locomotive Engines 43
One of Germain's Steamers now building ... 44
The Vulcan Foundry and Iron Works 44
Chicago street Iron Works—Nagle & Weed making engines to go to Massachusetts 45
The Globe Foundry—making Rail Road Chairs and Rocking Grates 45
The Eagle Iron Works—Boiler Making—First Boiler Establishment—John Newman 46
Devenport & Nelson's Boiler Works—the Phœnix Works 47

Page.

The First Rolling Mill in Buffalo 47
Blast Furnaces and Iron Rolling Mills—The First Blast Furnace in Buffalo—Palmer & Wadsworth—Thompson & Warren 47
Rolling Mill of the Union Iron Works 48
Pratt & Co., Fletcher Furnace 49
Steam Forges—Charles D. Delaney—First Steam Forge in Buffalo 50
Aaron D. Patchin—T. D. Patchin—Drullard & Hayes—Henry Childs 50
Stove Castings 51
Jewett & Root's Works—Hubbell & Bro.'s Stove Works 52
Union Stove Works 53
John T. Noye's Mill Furnishing Establishment, founded in 1836, by the late Elisha Hayward—Where Burr Stone come from. 53
Early Brass Foundries—Frank Colligon—Adam Good—Farrar, Trefts & Knight 54
Malleable Iron Work—Difficulty in refining pig iron—How it is done—The First attempt to make Malleable Castings in Buffalo—Pratt & Letchworth's Works—their magnitude—care taken for health and comfort of operatives in these works 54
Townsend Manufacturing Company 55
File and Tool Works—Wolstenholme File Manufacturing Company—Amount of Files imported and Manufactured—Edge Tool works 56
Locomotive Lamps 57
Horse Shoe Nails—Iron Bridges 57
Buffalo Bolt and Nut Works 57
Iron Fences—Safes—Bank Vaults—George Jones—R. M. Bingham—Barth & Huson .. 58
Car Wheels—J. & C. N. Scoville—Amount of Iron used—Number of Car Wheels manufactured yearly 58
Sheet Iron—Russia Sheet Iron—how it is made—large rewards offered by England for the secret of its manufacture—where we get our own supplies 59
Cracker Machines—Ruger's Manufactory ... 59
Buffalo Scale Works—John Weeks, one of the early manufacturers 60
Fire Clay Works—a large Establishment now going up for making Gas Retorts, Stove Linings, Fire Brick, &c. 60
Where are we to Get our Supply of Iron—Some remarks about the Lake Superior Iron region and its yield 60
The Sterling Iron Mines in Orange County, N. Y.—Jay Cooke, one of the Company .. 62
Manufacturing Interests of Buffalo—Leather—Buffalo as a Leather Market—amount manufactured—capital employed—facilities for getting Bark, &c.—Boot and Shoe making 63

Page.

Agricultural Implements and Machinery—the Brayley and Pitts Works—the magnitude of their business—where they find a market for their machines 64
Mowing and Reaping Machines—Mr. R. L. Howard's Works—number of Mowers and Reapers turned out yearly 65
Buffalo Agricultural Works—the Kirby Harvester and other Agicultural Implements made at this establishment 66
White Lead—Mr. Henry Roop, the Father of the business in Buffalo—how he built the First Lead Factory—Cornell & Son 67
Wood and Willow Ware—amount of Pails and Tubs manufactured by F. P. Wood & Co.—Willow grown on Grand Island 69
Frame Works, Looking Glass and Picture Frames,—Corning, Bradford, Teller & Co. 69
Tin Ware—Sidney Shepard & Co.'s establishment for making Tin Toys, Blacking Boxes, House Furnishing Articles, &c.—the necessity for having Tin Plates made in Buffalo—how Tin Plates are made—where Tin comes from—how the trade is controlled, &c. 70
House Furnishing Goods. Plated Ware, &c. ... 71
Brick Making Machine 72
Pottery—Wedgewood Ware—Clays for making Floor Tiles, Pottery, &c.—the origin and progress of the Art of Pottery—good Clay in Buffalo for making Pottery Ware. 72
Paper Making—Niagara Falls Paper Manufacturing Co. 75
Musical Manufactures—Geo. A. Prince & Co., Pioneer Melodeon Establishment—largest in the United States 75
Organ Building. G. House 77
Piano Fortes—Flutes—Drums, &c. 77
Letter Press Printing and Bookbinding Establishments—Chromotype Printing—Illuminated Posters—Card Work 77
The Courier Printing House of Joseph Warren & Co.—Illuminated Rail Road Work—Show Bills—Posters—and amount invested in the business—Where they send the work, &c., &c. 78
Franklin Printing House of C. F. S. Thomas—Largest and most complete in all its Departments 78
Rockwell, Baker and Hill—Job Printing.. 78
The Commercial Advertiser 78
The Morning Express 78
The Evening Post of George J. Bryan 79
Young, Lockwood & Co.—Leavitt—Reese.. 79
J. M. Johnson—Bookbinding Establishment—School Books—Diaries, &c. 79
J. L. Chichester—Albert Jones—Bookbinding Establishments 79
Nathan Lyman, Type Founder—E. Roberts, Case Maker 79
Relief Line Engraving—E. R. Jewett & Co.—Engravers for Patent Office Reports 79
Manufacture of Envelopes—E. R. Jewett.. 80
Lithographic Printing—Engraving—Card and Map mounting, &c.—Sage, Sons & Co.. 80
Clay & Cosack 81
Nimbs Manufacturing Company—Floating Elevator—Coal Elevator—History of the inventions of Mr. Nimbs 81

Page.

Cabinet Ware—Hersee & Timmerman—Thompson Hersee—Isaac D. White—Taunt & Bristol—Billiard Tables—Uncle Jerry Staats. 82
Lumber—E. & B. Holmes—Eaton, Brown & Co.—Evans—Dart Brothers 82
The Cheese Business—how it has grown—the early Cheese men 83
Akron Cement—Cummings & Jebb—Newman Cement Company 83
Sewer and Drain Pipe—Copeland, Rathbun & Co.—Buffalo a good point for the article. 84
Early Plumbers and Oil Men—William A. Hart—George Hubbard—"The Old Tin Store"—Hart, Ball & Hart—John D. Smith & Co. 84
Hardiker & Keenan—Somerville—Irlbacker, Davis & Co.,—George Irr 85
Carriage Making—Harvey & Wallace—Amount of Work done—D. C. Godwin—Jonathan Chamberlain 85
Children's Wagons—How many are made in Massachusetts—How many made here 85
Soap and Candles—Gowans & Beard, and other Manufacturers 86
Stave Dressing—over four millions dressed and put up in the Market annually 86
Marble Works—John Crawford—Dexter Beldon—N. S. Field—George O. Vail 86
Slate Roofing—John Galt 87
Bellows Making—J. Churchyard—$18,000 worth made in 1865 87
Ale and Beer Brewing—a barrel to each inhabitant 87
Tobacco Works, and Cigar Making 88
Rope, Cordage, Twine, &c.,—Butler. Mapleston & Co., and other Manufacturers 88
School Furniture—W. Chase & Son—what they are doing in this line 88
Glass Staining—William G. Miller, the first to engage in it, in Buffalo in 1833,—Booth & Riester—George L. Burns 89
Patent Medicine Men—"Medicine Men" of the Indian Tribes 89
The Wahoo Man Loveridge—where we get bottles 90
William Swaim the "Panacea Man" of Philadelphia—How rich he died 90
Doctor Dyott, a Philadelphia Patent Medicine Man—Wright's Indian Vegetable Pills—Doctor Jayne died in Philadelphia leaving $3,000,000 to his heirs—Doctor Schenk—Doctor Brandreth—Doctor Ayer of Lowell 91
William B. Moffat of New York—How he commenced the Patent Medicine business.. 92
Perry Davis—Donald Kennedy of Roxbury—Seth W. Fowle of Boston—Demas Barnes—Isaac Butts of Rochester—Heimbold—Mr. Bristol of Sarsaparilla Notoriety—Patent Medicine Almanacs 92
The inventors of Buffalo—what they have done—what they are doing—their influence on Civilization—list of the principal Inventors and what they have Invented.. 93
Some suggestions as to the kind of Manufacturing business that would pay to establish here 97
Conclusion 98
The Commerce of Buffalo 99

SKETCH

OF THE

HISTORY OF BUFFALO.

BY HON. GEORGE W. CLINTON.

We had hoped to present our readers with a more complete account of the rise of Buffalo than we now offer for their perusal. But, while our other engagements have left us little leisure for the collection of materials, the necessity of research has not been lightened to the extent we hoped, by the voluntary contributions of others. It is true that the venerable Judge Porter, properly appreciating the importance of minute history, and his obligations as one of the earliest and most influential settlers of Western New York, has placed in the archives of the Young Men's Association an invaluable memoir; —that James L. Barton, Esquire, has favored us with his highly interesting reminiscences, which will, we trust, be put in a convenient form for preservation and reference, —and that pleasing writers have come nearer home to us, and favored us with their recollections of The Streamlet in the City, and Gould's Point. But these papers, gratifying as they are, contain bnt little that can be adapted to our use and interwoven in our narrative. We are dissatisfied with the result of our labors. But we believe it contains an outline capable of being filled up and perfected, and that it embodies some facts not generally known, which must have a peculiar interest for our old inhabitants, and be calculated to revive their memory of early events and associations, and prompt them to give to the public the many fleeting traits of our progress which live only in their recollections, and which are in so great danger of falling into oblivion. Buffalo is destined to be one of the greatest cities of the world, and a remote posterity will take great interest, and perchance derive instruction from details which may now seem trivial. Facts bearing upon our progress will gather consequence with the flow of time, if they be not sunk in its current; and now, if ever, is the time to launch them on the stream. But, alas! every day sees them mouldering away uselessly upon the strand. They are perishing with the removal from the world of the men who saw the rude beginnings of our city. This year has deprived us of two old men—of Judge Townsend, who furnished important matter for our last sketch,—and of Ezekiel Lane, who is said to have built the first house on the site of Buffalo, and who lived in all more than a century. We hope the few who are left, will feel that the thinness of their numbers adds to their obligation to contribute their stores to our materials for history, and that the departure of their compeers will be a prevailing incitement to its immediate performance.

In 1772 the Provincial Legislature organized the County of Tryon, which embraced the whole western and middle portions of the Province. In 1784 the State Legislature

changed the name to Montgomery, in honor of the illustrious General who fell in the assault upon Quebec, and who was equal in noble daring, but not in fortune, to the gallant Wolfe. Population began to spread beyond the settlements on the Mohawk, but in scanty streams, until 1789, when the old County of Ontario, embracing the whole of what we now term Western New York, was set off from Montgomery. From that time the progress of civilization westward was accelerated, and in March, 1802, Genesee was separated from Ontario County. Six years later, in March, 1808, Niagara County became the western extremity of the State. And in April, 1821, Niagara was divided into several counties, of which the present County of Erie was one.

Sixty years ago a very important event in the history of this State occurred on, or in the vicinity of the site of Buffalo. The Seneca Nation then owned the entire western portion of the State, and the right of pre-emption, or exclusive right of purchase from them, pertained to the State of Massachusetts. From the settlements on the Mohawk westward, the country was a forest, broken only by scattered Indian villages and a few military posts. Oliver Phelps had purchased the right of pre-emption from Massachusetts, and in 1787, at Geneva, had attempted to acquire from the Indians their title to a portion of the western territory,—but the attempt resulted only in an arrangement to hold a Treaty with them the following year. In June, 1788, he met the Senecas at Buffalo, and concluded a Treaty, by which they conveyed to him the territory lying between the pre-emption line and the Genesee River, and a strip of land on the west bank of that River, twelve miles wide and about twenty miles in depth from its mouth. This acquisition is now known as Phelps' and Gorham's Purchase. It does not appear that any Commissioner on the part of the old Confederation was present, nor that any ratification by the Senate of the United States was deemed necessary to the validity of this Treaty. Indeed this Treaty was nearly simultaneous with the ratification of the Constitution of the United States by the requisite number of States to give life to that solemn Instrument. In May, 1788, but eight State Conventions had assented to the Constitution, and on the 21st day of June following New Hampshire, the necessary ninth State, gave in her adhesion to it—so that the foundations of our local prosperity and of the greatness of our country were laid in the same month of the same year,—and perchance on the very same day. Where the council was held which ended in this sale,—whether here, or at the Indian village, some four miles up the Creek,—we do not know. It is not improbable that Winne, the Indian trader, had established the little store, in which he figured at this point only three years afterwards, when we first hear of him. But we have no records proving the existence of a domiciled white man here, or any where in this region, in 1788,—except at Oswego and Fort Niagara,—posts which the British still held, and continued to hold until 1796, in contravention of the Treaty which closed our Revolutionary War.

The year 1789 was distinguished by the birth of Oliver Phelps Rice, the first white child born on Phelps' and Gorham's Purchase. He was born, we believe, in Bloomfield, in the present County of Ontario. We would be pleased to know his fate. He may well survive to this time, for, if living, he would be but fifty-nine years old. Population increased rapidly, and in August, 1779, the field of immigration in this quarter was enlarged; for, by the Treaty of Geneseo, Thomas Morris extinguished the Indian title to the lands west of the Genesee River, except twelve tracts which the Senecas retained, and which were known as the Caneadea, Gardeau, Squaky Hill, Little Beards, Big Tree, Conawagus, Tonawanda, Tuscarora, Buffalo, Cattaraugus, Allegany, and Oil Spring Reservations. These lands soon passed into the hands of the Holland Land Company, and, under the liberal policy recommended by their agent, Joseph Ellicott, and adopted by the Company, were rapidly occupied by industrious and intelligent families.

In March, 1791, Col. Thomas Proctor visited the Senecas of Buffalo Creek, as Commissioner of the United States, and from him we have the first authentic notice of this place. He mentions the store-house at Lake Erie, kept by Cornelius Winne. This point was then known as Lake Erie, and Winne was an Indian trader. This store in which he dwelt was on Washington street near the Canal Bridge, and is the

only one mentioned by Col. Proctor, and was probably the only building then erected at this point.

La Rochefoucauld Liancourt, a French nobleman, visited this place and the neighboring Indian villages in June, 1795. There were then a few houses at this point, for he speaks of an inn where he was obliged to sleep on the flour in his clothes, and in which there was neither "furniture, rum, candles, nor milk." But there were "neighbors" who supplied milk for the traveler;—but the rum and candles were procured from Fort Erie. He says—"Every thing at Lake Erie, (by which name this collection of houses is called,) is dearer than at any other place we visited, for the simple reason that there is no direct communication with any other point." Isaac Weld, Jr., describes Fort Erie, in October, 1796, as "a small stockaded post, adjoining which are extensive stores, and about half a dozen miserable little dwellings." The stores have vanished, the miserable dwellings remain, and the massive Fort which replaced the stockade, has been war-shattered, and is now a ruin.

Judge Porter, in August, 1795, went to Presque Isle, through Buffalo, in company with Judah Colt. He informs us that one Johnson, the British Indian interpreter, Winne, the trader, and Middaugh, a Dutchman, with his family, lived at Buffalo.

At Presque Isle they found a party of surveyors, under the protection of a military company commanded by General Irwin, engaged in laying out a village, which has since become the flourishing city of Erie. Col. Seth Reed, the father of Rufus S. Reed, and grandfather of Charles M. Reed, having just arrived, was living with his family in a marquee. In 1796, the only white person residing on the Western Reserve in Ohio, was a Frenchman who had taken up his abode with the Indians at Sandusky Bay.

We also learn from Judge Porter's excellent memoir, that, in 1797, the only road from Conawagus (Avon) to Buffalo, was an Indian trail,—and the only house upon it was one of a Mr. Wilder, about one mile and a half east of Le Roy. The whole country was in fact a wilderness, and its settlement by the whites can hardly be said to have commenced until the beginning of this century.

Public attention at the East, however, had been directed to the cheap and fertile lands of Western New York, and the Holland Land Company having adopted a liberal system of sales, the wave of emigration flowed beyond Phelps' and Gorham's Purchase, and in 1801 we find the Company laying out the village of New Amsterdam into village lots, outer and inner, any one of which would now be a sufficient fortune for a man of moderate desires.

Although the advantages of our site were appreciated by Joseph Ellicott, and a few enlightened men, at a very early day, it must not be supposed that those advantages were the same which now give Buffalo its pre-eminence among the rising cities of the Lakes. It may well be that Mr. Ellicott's acute mind looked far into the future, but neither he nor any other mortal, in 1800, could have seen the forethrown shadows of present commerce. Supplying the few settlers with necessaries, and exchanging rum, cloth, blankets, trinkets, and ammunition with the Indians, for furs and pelts, remained for a long time the chief modes of trade. The roads in our new country were execrable, and as late as 1812, the slow and circuitous course of trade was directed through the Niagara River to Schlosser, thence by the portage to Lewiston, thence by water to Oswego, and up the Oswego River, through the Oneida Lake and Wood Creek, and across a short portage to the Mohawk River—thence by that river and around the portage at Little Falls to Schenectady,—and thence over the arid pine plains to Albany. If enlarged commerce was anticipated, Buffalo could hardly have been regarded as its probable center. It had from the first a formidable rival in Black Rock, which outstripped it in the early race, and was not fairly distanced until 1825. Black Rock indeed had the superiority of natural position. While the mouth of the Buffalo Creek was always obstructed by a formidable bar, and sometimes utterly closed by it, Black Rock presented an excellent harbor which monopolized the infant commerce of the Lakes.

It will be remembered, that even after Morris' Treaty with the Senecas, an immense body of cheap and luxuriant territory lying east of the Genesee River, was open to the

settler—that no facilities were extended to the adventurous immigrant by steamboats, canals, or railroads, as in our day,—but that, on the contrary, they were compelled to encounter not only the privations, and dangerous distempers of the newly-opened West, but great difficulty and suffering in reaching it; and it will not appear surprising, that in 1807 there were scarcely a dozen houses in the humble hamlet of New Amsterdam. The stream of immigration was swollen, however, with the occupation eastward of the most promising lands, and the construction and improvement of roads, and in 1808, as before observed, this extremity of New York attained the dignity of a county, and was called Niagara.

The act of March 11, 1808, erecting the County of Niagara from the old County of Genesee, deserves a passing notice. It indicates either the liberal and just policy of the Holland Company, or the sense of the Legislature of the financial weakness of the new County, and of the interests of the Company, and is a proof also of the prospective importance attributed to New Amsterdam. It also shows that the villagers were probably dissatisfied with the then most inappropriate name of the place, and that it began to be known as Buffalo. Whence that name originated it is impossible to determine. The change of Tushawa or Tehoseroron to Buffalo Creek, undoubtedly preceded it. Our readers will perchance remember some speculations upon this subject in our sketch of that year.

This act provides that the Court House and Jail in the new County shall be erected in the village of Buffalo or New Amsterdam, provided the Holland Land Company, or their agent, shall, within three years thereafter, and at their sole expense, erect in the said village a sufficient and suitable building or buildings for a Court House and Jail for said County, and legally convey not less than half an acre of land whereon the same shall be erected, together with the said building or buildings, for the use of the said County. The Judges of the County were required to examine the buildings, and, if satisfied, to make and record in the County Clerk's office, their certificate that this condition had been complied with. It was also provided by the act, that the first Court of Common Pleas and General Sessions for the said County of Niagara should be held at the house of Joseph Landon,—a public house on the site of the present Mansion House,—and afterwards, until the Court House should be erected, at such places as the Judges of the County should direct.

The Holland Land Company complied with the act; for Judge Townsend, in describing Buffalo in 1811, mentions "the old stone jail on Washington street, and an unfinished wooden Court House." The conveyance of the site of the Court House to the Supervisors of the County is dated November 21, 1810,—and discloses a somewhat singular taste. The land conveyed is a circle, the center of which was in the middle of Washington (then Onondaga) street, in front of the present Court House. Mr. Ellicott appears to have favored curves as much as triangles,—for, in the original plan of the city, Main street, when it reaches the open space where the Churches now stand, takes a bold circular curve to the West to South Division street, and then resumes its straight course. It was thus, in fact divided into two Avenues, that north of the curve being called Van Staphorst, and the other, Willink Avenue. It is said that Mr. Ellicott contemplated building a mansion for himself in this arc. It would have commanded uninterrupted views through the two avenues above mentioned, and through Erie, Church, and Niagara streets, or, as they were then called, Stadtnitski, Vollenhoven, and Schimmelpenninck Avenues. All these, to our ears uncouth designations, were the honored appellations of the proprietors, or members of the Holland Company. They were estimable and liberal gentlemen, but we cannot regret that their names have so perished from among us.

Inner lots numbers 184 and 185, described as "those two certain lots or parcels of land lying in the village of Buffalo or New Amsterdam, on which the jail in said village had been erected by the Holland Land Company and accepted by the Judges of said County for the jail of said County," &c., were likewise duly conveyed to the Supervisors by a deed dated Nov. 21, 1810. The jail was of stone, and perchance survived the burning of Buffalo in 1813.

Charles Townsend and George Coit came here as traders in 1811, bringing by the route we have designated, about twenty tons of of merchandise—a large stock for that time—at a cost of fifty dollars a ton from Albany. Judge Townsend estimated the dwellings at less than one hundred, and the whole population as about five hundred. There were three taverns and four stores in the place. "A small wooden building near where Mr. Silas Fobes' dwelling now stands"—the corner of Swan and Pearl Streets —"put up for a school house, served also as a town hall, a church for all religious denominations, and indeed for all public purposes." "The mouth of the Buffalo Creek was usually so much obstructed by a sand bar, that small vessels could but rarely enter, and even canoes were sometimes shut out, and footmen walked dry shod across the mouth. Vessels were loaded and unloaded at a wharf near Bird Island, at Black Rock." Oliver Forward was a Justice of the Peace, and Judge Granger was Post Master and Collector of the Port.

Even at this late period the command of the lake was in the hands of the English, for they controlled the Indian trade, and we read in Weld's Travels, that so early as 1796, they had upon it three vessels of war, of about 200 tons burthen, and carrying from eight to twelve guns each; besides a number of merchantmen. This naval superiority, however, was reversed by the glorious battle of Lake Erie.

John Melish, an English traveler, visited Buffalo in 1811. He furnishes a very interesting account of the then condition of the village, and our readers will find it in the "Notices of Early Travelers" appended to this sketch. We would call attention however, to the fact stated by him, that it was, even at that unpropitious time, proposed to run a pier into the Lake, at the outlet of the Creek, and so form a harbor. A stage ran twice a week from Albany to Buffalo.

The village was undoubtedly rising rapidly in consequence, when it was suddenly doomed to utter destruction. During the last war our citizens had rendered themselves obnoxious to their Canadian neighbors, by the zeal and energy with which they contributed to its prosecution, and the place itself was a military station. The indecisive and occasionally discreditable forays which mark frontier wars had exasperated evil passions on both sides, and the burning of Kingston was to be especially avenged. Buffalo was the object of retaliation. On the 30th of December, 1813, a large British force, with a horde of Indian auxiliaries, crossed the river at Black Rock, advanced upon the village and took and burnt it, despite the gallant resistance of a portion of the inhabitants, who succeeded in removing a part of the military stores. Many of our people were carried away captive, and those who escaped, fleeing as they did in the depth of winter, and in utter destitution, were scarcely in a happier condition. So complete was the destruction that only two dwellings were left unconsumed—one of which was occupied by Mrs. Margaret St. John, and stood near David Burt's store on Main street. The village was utterly destroyed, and the inhabitants, to all appearances, hopelessly dispersed. Such are the atrocities of war! The rebuilding of the place was not commenced until 1815.

The village was incorporated in April, 1813, and the Trustees named in the act are Eli Hart, Zenas W. Baker, Ebenezer Walden, Oliver Forward, and Cyrenius Chapin. The bustle and incidents of the war, however, prevented all action under this charter. A new charter was passed on the 5th day of April, 1816, and the village accepted and was organized under it, on the 6th day of May following. Hoping that some brief notices of the doings and legislation of the village authorities may be as interesting to the public as they have proven to ourselves, we venture to incorporate them with our narrative. Although in perusing our Village Records we may be occasionally beguiled into a smile at the proceedings of the *Patres Conscripti*, we cannot but do justice to their foresight and wisdom in very many matters of much consequence to us as well as to the then inhabitants.

The Trustees appointed by the Act continued to hold office until the first election, which took place on the first Monday of May, 1817. The powers of the Board of Trustees, however, were extremely limited until they were augmented by a new Charter in the year 1822. Ordinances were made, and taxes imposed by the freeholders

and inhabitants, in meetings convoked by the Trustees, who appear to have been mainly executive officers.

The freeholders and inhabitants met, at the house of Gaius Kibbe, Innkeeper, on the 6th day of May, 1816. Of the Trustees, Samuel Wilkeson, Oliver Forward, Charles Townsend, and Jonas Harrison were present. The meeting chose Jonathan E. Chaplin, Clerk, Josiah Trowbridge, Treasurer, Moses Baker, Collector, and Reuben B. Heacock, John Haddock, and Caleb Russell, Fire Wardens. At a subsequent meeting, held at the same place, on the 11th November, 1816, they passed the first tax ever imposed in Buffalo—a tax of $1,400, to be apportioned according to the Assessment Roll of the town of Buffalo for that year. They also directed their attention to the security of the village from fire, passed some wholesome precautionary ordinances, provided for the purchase of hooks and ladders, and authorized and required the Trustees to examine and ascertain the practicability of procuring a supply of water, by the means of water courses, aqueducts, reservoirs or otherwise, and, if in their opinion the object could be thus attained, to contract for the purchase of any real property or privileges that might be necessary. Nothing, however, seems to have been effected under this resolution. But the Trustees, on the 7th of March, organized a Fire Company, and appointed the following firemen to constitute it:—William Murray, Stephen K. Grosvenor, Jonathan E. Chaplin, Dan. Bristol, Gorham Chapin, John Fobes, John B. Hicks, Horatio L. Fobes, Joseph Lawton, Jonathan R. Brown, Azariah Fuller, Jr., Sylvanus Marvin, Abraham Larzelere, Barent J. Staats, Frederick A. Sprague, Sylvester Mathews, William B. Goodrich, Nathaniel B. Goodrich, William Dorrington, Welcome Wood. They also resolved rather arbitrarily, "that it be the duty of Vincent Grant, Gilman Folsom, and Amos Callender, to protect property from plunder whenever a fire may take place in this village."

At the same meeting the Trustees passed a resolution, "that a tax of three mills on the dollar (computed to amount to $400) be taxed and collected on the property of the taxable inhabitants," &c. So that in 1817 the taxable property of the village was valued at about $134,400.

The Trustees elected at the annual meeting on the first Monday of May, 1817, were Ebenezer Walden, Jonas Harrison, John G. Camp, Samuel Wilkeson, and Elias Ransom. The custody and disbursement of the public moneys could not have been very burdensome. Elijah D. Efner being elected Treasurer in 1818, his predecessor, who had served for two years, having a balance of $56.20 on hand, modestly suggested that it might be in the judgment of the Trustees, subject to a deduction for his services. But the Trustees inexorably resolved, "That no compensation be allowed to the late Treasurer, as his duties were represented to have been attended with no unusual trouble or loss of time."

In May, 1818, was passed the first ordinance to regulate the assize of bread. It fixes the weight of the sixpenny loaf, made of superfine flour, at one and a half, and the shilling loaf at three pounds.

On the 26th of July, 1820, the freeholders and inhabitants adopted a code of by-laws, and an extremely short one it was, consisting only of nine enactments—intended to prevent the keeping of damaged meats, fish, &c.; to compel their owners to remove dead animals; to prevent the firing of crackers, &c., and the lighting of bonfires, always excepting the burning of shavings, in the streets; to prevent nuisances and obstructions of streets, lanes, alleys, and sidewalks; to enforce cleanliness in market and slaughter houses, and make them subject to the inspection of the Trustees; and to prevent driving on sidewalks, and driving faster than a trot in the streets. We do not purpose a history of civic legislation, but the laws of a community afford a safe criterion of its condition, and this, being our first municipal code, furnishes, by the paucity of its subjects, strong proof of the then low state of Buffalo. Indeed, all the by-laws enacted before the city was incorporated, would hardly fill two columns of the *Commercial Advertiser.* But we are happy to be able to add, that the proceedings of the Trustees, while they were adapted to the existing state of the village, invariably indicate a wise forecast and an intelligent public zeal.

On the 7th of May, 1821, $200 was appropriated to build a public market, "to be placed opposite the Court House, on the west side of Main street;" and it was provided that the rent to accrue from it should "be expended exclusively in making wells and reservoirs." But, two days afterward, this act was rescinded, and the Trustees were authorized to contract with any individual to build a market, ("without taxing the village.") In April, 1822, an ordinance was passed to prevent the sale of meats any where "except at the new public market erected on Stadtniski's Avenue, near the Episcopal Church," under a penalty of $2. In May, 1823, the Market House was appraised at $306.75, but it does not appear that it ever became village property.

The year 1822 is distinguished in our village annals by a re-enactment of the Charter, with material alterations, by the adoption of a Corporate Seal, and the first corporate notice of the Harbor of Buffalo. On the 10th of April, at a meeting held at the house of Charles Townsend, the Trustees adopted, as the common seal, "a stamp, now presented to the Trustees, making a circular impression of the words 'Buffalo Village,' with the center of the circle relieved." The next Board, elected under the new Charter, confirmed this act of their predecessors, in June. But in July, 1826, the Clerk was directed to procure "a Seal two inches in diameter, the device of which shall be a ship or vessel, a section of the canal, a canal boat and horses drawing the same, and around the periphery of the circle, the words, at the top, 'Corporation Seal,' and at the bottom, 'Buffalo;'" which, having been also adopted by the Common Council in 1832, has ever since been our corporate seal.

Our limits forbid our repeating that portion of the introduction to our first volume which relates to the construction of the pier and the permanent opening of the mouth of the Buffalo Harbor in 1820–23. But we are happy to say that the Trustees co-operated energetically with private individuals in furthering an enterprise so essential to the prosperity of the village. In August, 1822, they contracted with John T. Lacy for the building of a mud scow, for $534. And it is recorded, that on the 7th of November, they directed orders to be drawn on the Treasurer, as follows: in favor of John McKeen and John T. Lacy, for the mud machine, $499.56; Noah Brown, for scoops, chains and blocks, $183.96; Johnson & Wilkeson, for transportation of scoop, &c., $23.41. On the 19th of August, the first ordinance was passed "to prevent obstructions of the navigable waters of Buffalo Creek, within the limits of the village," merely providing against leaving vessels, boats, or hulls, unmoored or unfastened.

In May, 1823, the first attempt was made, by ordinance, to prevent domestic animals from running at large. It was an attack upon the liberty of swine; but, although in 1826 a pound twenty-five feet square was ordered to be built for their punishment, and the civic war against them has been waged even to this day with unremitting vigor, it is too well known that these obstinate brutes have never been completely quelled.

In June, 1824, the Trustees passed rather an arbitrary resolution, "that the old hovel at the foot of the hill, near Martin Daley's, be removed by the owner without delay, or that, in case of his neglect to remove the same, the same be *burnt*." We presume the boys had a bonfire, though *Magna Charta* was plainly violated.

On the 6th of August, 1825, Lorin Pierce was appointed village sexton. He has officiated as sexton from that day to this, and no man ever earned a more deserved popularity in so melancholy a station.

On the 19th of June, 1826, the names of our streets were changed, and their Dutch appellations were discarded and renounced by a resolution of the Trustees. In this, being the first year in which any such licenses were issued by the village authorities, fourteen tavern and sixty-four grocery licenses were granted. The general tax, including five per cent. for the collector, was $1,270.50. In 1830, the tax was only $2,000.

But we must not report too indiscriminately the doings of the Trustees; and it will be more convenient, instead of following their chronicles from year to year, to make a summary of their good deeds under appropriate heads.

We have already given proof of their laudable anxiety to procure a sufficient supply of water, and to protect the village from fire. They seem to have had these great

objects almost constantly in view. In November, 1824, the Trustees directed "the Clerk to write to the agent of the Holland Land Company, requesting a donation of a lot on Buffalo Creek for accommodating the village with water." Whether the request was made, and with what issue, we are not informed.

On the 16th of December, 1824, the second fire company was organized, and the members were George B. Webster, Hiram Johnson, George B. Gleason, Henry Fobes, Guy H. Goodrich, Ebenezer Johnson, Barent J. Staats, Nathaniel Wilgus, Richard Wadsworth, Elisha C. Hickox, Thaddeus Weed, Joseph Dart, Jr., Elijah D. Efner, George Coit, Silas Athearn, John Scott, Henry Hamilton, William Hollister, Joseph Anable, Augustine Eaton, Abner Bryant, Theodore Coburn, Martin Daley, Robert Bush, and John A. Lazell.

No further notice appears to have been had in these important matters for several years, if we except the appropriation of $20, in December, 1826, towards defraying the expense of digging a well on the corner of Pearl and Swan streets. But, in August, 1831, in pursuance of the act of April 18, 1831, a tax of $3,000 was imposed for the "exclusive" purpose of constructing wells and reservoirs, and the purchase of fire engines, &c. In September a contract was made with the Jubilee Water Works Company, to last seven years, by which the Trustees were to build, in 1831, four cisterns, to contain about 10,000 gallons each, to be filled by the Company, at $10 each per annum; the second year the Company were to be paid at that rate for six, and to fill at the same rate as many as the Trustees should construct. In November, $2,000 was paid for a fire engine and 200 feet of hose; and the third fire company was organized. Two engine houses had been built, and another engine ordered. We cannot leave this subject without expressing a sincere hope that Buffalo will not be permitted to be much longer without an abundant supply of pure water, the surest preservative of health, and chief safety from conflagration; nor without adding our humble testimony to the merits of our Fire Department. That Department has always embraced a very large portion of our most respectable citizens, has always been distinguished by good order and efficiency, and well deserves every encouragement which may be necessary to maintain its purity and vigor.

The Watch was introduced with the city charter. It seems to have been doubted whether private watchmen could be employed without the sanction of the Trustees. At any rate, in February, 1832, "some of the inhabitants of the Triangle situated between Main and Canal streets and the Canal," having petitioned therefor, John Benson, Michael Benson and William Cornwall, were appointed watchmen for the Triangle—"to be paid by the petitioners."

In June, 1826, the village was divided into five road districts, "for the better improvement of the streets and highways therein." In June, 1831, it was resolved to appoint a "general road superintendent," and Moses Baker was chosen to fill the office. In fact the streets were mere roads until 1835, and the sidewalks were undefined and unregulated until 1825. The only mention of paving we find in the minutes of the Trustees, is a resolution of November 4, 1830, to the effect, that, "whenever the owners and occupants adjoining the alley leading from Canal street to Main street, shall graduate and open it, the village will pay half the expense of paving the same, not exceeding the expense of the part already paved by E. Johnson, in proportion to distance."

In June, 1825, Joseph Clary was "directed to ascertain and establish the true surface of the sidewalks in Main. street, between Swan and Crow streets," and to place monuments "so that the walks when finished or flagged shall be an inclined plane."

But it was not until the 27th of July, 1829, that any order for paving sidewalks was made. Then Main street was ordered to be flagged and railed at the expense of the owners, commencing at the Stone Tavern on the Terrace and the north side of Crow (Exchange) street, to Chippewa street on the west side, and on the east side to Eagle street—the flagging to be smooth stone or hard brick—the west side to be sixteen, and the east fourteen feet wide—the platforms not to exceed five feet—the curbing on the west side, from the Stone Tavern to the northeast corner of Lot No. 41, to be stone 18 inches by 5, and the rest to be of either stone, or of oak 16 inches by 4,

This flagging, in May following, was ordered to be extended, on the east side to Genesee, and on the west side to Chippewa street.

In October, 1821, leave was given to William Evans and William R. Gwinn, to construct the ship canal, care being taken to provide that it should be made at their own expense, and be a public highway, and that they should erect bridges over it.

The Act incorporating the City of Buffalo was passed April 20, 1832. The first election was held on the 26th of May following, and in the First Ward, Isaac S. Smith and Joseph W. Brown,—in the Second, John G. Camp and Henry Root,—in the Third, David M. Day and Ira A. Blossom,—in the Fourth, Henry White and Major A. Andrews, and in the Fifth, Ebenezer Walden and Thomas C. Love, were elected Aldermen. The Board assembled at the Court House on the 28th of May, and elected Ebenezer Johnson, Mayor. They also appointed Dyre Tillinghast, Clerk, and Henry R. Seymour, Treasurer. The building of that singular combination of a City Hall and Public Market which deforms the Terrace, was not, we believe, commenced until 1835.

On the 13th of January, 1835, Theodore Coburn, Sheldon Thompson, George B. Webster, Heman B. Potter, and John W. Clarke, were appointed by the Council to assess $5,000 on the property to be benefited by the paving of Main from South Division to Crow street. This report was confirmed on the third, and the work ordered to be done on the 10th day of April.

Here we desist from pursuing our city annals into detail. We have found them full of interest, and they are the main material for a local history. They establish one fact that all ought to be apprised of—that our most distinguished and successful citizens have been those who have taken an active part in promoting the prosperity of the place, and have deemed no civic office too humble, or too onerous for their acceptance. Many instances of this fact have been incidentally exhibited, and more might easily be adduced did our limits permit. We will add, however, that the first Attorney of the Corporation was Gorham Chapin, appointed in June, 1822, and Joseph Clary succeeded him in May, 1823; James Sheldon filled that office in 1826; on the 2d of June, 1829, George P. Barker was appointed Clerk, and Elijah Ford took his place in April, 1834, when Mr. Barker was appointed Attorney of the village.

We would be very glad to possess a history of the progress of architectural taste in Buffalo, and the dates of the erection of the more important edifices; but we are sadly deficient in these particulars. We know that the "Stone Tavern," which has now disappeared, was thought ornamental in its day; and the old Bank of Niagara, now regarded as an antiquated building, and which, from its position, is, in fact, a nuisance, was deemed a noble structure so late as 1825. The American Hotel was built in 1835–6. Very many creditable religious structures have risen within a few years, and others are now rising. But we cannot state fully how our churches were endowed, or when they were erected. The Holland Land Company, however, pursued an enlightened policy, and we may mention that the sites of St. Paul's Church, and of the First Presbyterian Church, were donated by it—the former in June, and the latter in December, 1820.

Our city has no buildings for judicial or civic purposes, worthy of its position, or adequate to its wants. But the times seem fully rife for planning and commencing a City Hall commensurate with the present palmy condition, and worthy of the assured destiny of Buffalo.

Be it remembered that, although Buffalo has once at least, passed successfully through a long and arduous struggle, in which her very existence was endangered—though, being deficient in capital, she felt the full force of those tremendous financial convulsions, against which naught but capital could afford a safeguard, and which shook the credit of the whole country to its very center, her citizens have been ever sedulously devoted to the true interests and highest glory of a free community. Neither the calm of prosperity nor the buffetings of adversity ever paralyzed their efforts in the cause of education, nor rendered them utterly neglectful of ennobling science. We have a free common school system which is the chief ornament of our city, and the

strongest guarantee of civil order. Our Young Men's Association has promoted literary tastes, and created an appetite for knowledge. It has done much good, and we are sanguine that better things are not far behind. The Medical Department of our University is a noble and flourishing institution, and we trust the day is not far distant when all the departments will be fully organized, and Buffalo be as illustrious in science as she is happy in a diffused prosperity, and unrivaled in the West in commerce.

It is somewhat out of place, but we are compelled to give it here, or to omit entirely, some information recently received, for which we are indebted to C. Turner, Esq., of Lockport, whose forthcoming history of the early settlers of Western New York we are anxiously expecting,—and which will form a most desirable addition to general as well as local history.

The first settlement of Buffalo, was in the vicinity of the Liberty Pole by the Terrace Market. As stated in the introduction to our first volume, the double log house on or near Exchange street, built by Middaugh and Lane, and sold to Judge Barker, in 1807 or 1808, was among the first dwellings—it is claimed to have been the very first erected in Buffalo. No contracts for the sale of lands in New Amsterdam were entered into by the Holland Company until November 1, 1804,—on which day six were made, by the entry of memoranda in a book kept by Mr. Ellicott, their agent and attorney. One of these is for the conveyance to Capt. William Johnston, the British Indian Interpreter, of outer lots 93 and 85, and inner lots 3, 30 and 32, in consideration of services rendered by him to the company, in the adjustment of the boundaries of the Reservation, between the company and the Senecas, over whom he seems to have possessed a boundless influence. Another contract was for the sale of inner lot No. 1, to John Crow, who kept a small tavern upon it at an early day. By a memorandum made by Mr. Ellicott, it appears that this lot was deeded, on the 14th of April, 1810, to Joseph Landon, for $140. The other sales were of inner lots, to Asa Ransom, number 65,—Sophronius Maybe, number 35,—Henry Chapin, number 34, and William Robbins, number 33. These agreements were probably coupled with conditions, on the part of the purchaser, to clear the land and build houses, as Mr. Ellicott was at the outset averse to selling to any but actual settlers;—and the price of an inner lot could not have exceeded $20;—for on the 3d day of July, 1807, we find Abraham Hershey buying of the company, inner lots 150, 151, 156, and 157, in all for $80, and binding himself to clear one of the lots and build a house in some short time thereafter. In 1808, Alpheus Hitchcox purchased outer lots 88 and 89, at the rate of $4 per acre. Melish, in his travels, in 1811, says of Buffalo: "The lots are from 60 to 100 feet deep, and sell at from 25 to 50 dollars; and there are out lots of 5 and 10 acres each, worth at present from 10 to 25 dollars per acre."

The increase of population, at first gradual, has of late been extremely rapid. Melish says: "The population was by the last census 355; it is now (1811) computed at 500 and is rapidly increasing." In 1825, the population was 2,412; in 1830, it was 8,668; in 1835, it had swollen to 15,661; in 1840, it was 18,213. The census of 1845 numbers our people at 29,973. In February last, Mr. Palmer, who took the school census, took with great care, at the same time, an enumeration of the inhabitants generally, and found they amounted to more than 40,000. We hazard but little in repeating our prediction, that, in 1850, Buffalo will contain 50,000 souls.

And here we must be permitted to express our chagrin at being unable to enliven this sketch by brief biographies of the early settlers. We hope this deficiency will be perceived, and that the means of supplying it hereafter will be furnished. There must be much of interest, if it can be recovered from the page of oblivion, in the lives of Johnston, Crow, Lane and Winne. It might seem invidious to specify other more recent Buffalonians who have contributed to the general well being. But we must say that we would be very glad to possess a biography of that most exemplary, benevolent, and excellent man, Louis Le Couteulx, for he lived a chequered life, and was a public benefactor. Surely, too, the lives of such men as Dr. Cyrenius Chapin, Oliver Forward, and Charles Townsend, must present some features of general concernment, as well as others peculiarly precious to those who love to delve in the mouldering recollections of the past.

The history af our Harbor, and of our Harbor Improvements, would of itself, if duly written, fill a volume. It is connected not only with our own, but with the history of the State; and the western termination of the Erie Canal was a question involved in party strife, and influential in determining the destinies of statesmen. De Witt Clinton appreciated the advantages of Buffalo as the terminus, and his councils, after a fierce contest, prevailed, and time has most signally vindicated his sagacity. Black Rock, once a threatening competitor, has sunk into obscurity, but will soon, we trust, be embraced by the extension of our city, and flourish with it. The Buffalo Creek, with the aid of Art, has yielded a more commodious harbor for the commerce of the Lakes, than Art and Nature both could ever form from the rushing river.

But for many years it has been evident that our Harbor, occasionally crowded as it was, would shortly, for want of room, prove insufficient to shelter and accommodate the constantly augmenting shipping of the Lakes. As our tables show, this increase is astounding to those who know not, that what in Europe would be an Empire, has sprung up in the West since 1825. This evil in anticipation had attracted but partial attention, and discussion had given rise to worse than unprofitable quarrels, resulting in the defeat of every scheme and project of improvement, until, in 1847, the public was aroused by the thronged state of the creek, which several times was fairly bridged by vessels for a full quarter of a mile, while our warehouses, being filled to overflowing, the wharves and streets in their vicinity were covered and choked with flour and produce which could not find shelter. Then the public acted, and as will always be the case when the public acts deliberately, petty and selfish schemes were thrown aside, bickerings ceased, and all our citizens concurred in sanctioning an expanded system of improvement, which, when completed, will suffice for the ever expanding commerce of a century to come. This system, having been carefully matured by a joint committee of the citizens and of the Common Council, was adopted at a general meeting of the citizens on the 21st, and by the Council on the 24th of August, 1847. These will, we trust, be honored days hereafter. The plan contemplates primarily the completion by the State of the Main and Hamburgh Street Canal, and of two large Basins, the Ohio and the Erie, with slips connecting them with the canal. The Ohio Basin is to have an area of ten acres, and is connected with the Buffalo Creek about a mile from the mouth—the Erie Basin is to be three hundred feet wide and half a mile in length, extending from the north side of the entrance of the Harbor, towards Black Rock. Both are to be of a depth sufficient for the largest craft, and will quadruple our facilities for commerce. The State has made appropriations for the execution of these great works, contingent upon the city's extinguishing the individual titles to the necessary lands. The city has taken the necessary preliminary steps to fulfill her part of the undertaking, and this year will, we trust, see both these improvements far advanced toward completion. When they are completed Buffalo will be founded on a rock.

Our task is nearly finished. We have omitted many matters incorporated in our former sketch; but hope, in 1849, to blend all our present and much fresh material into a worthier history of our dear city.

The old fable of Venus rising from the foam of the great sea is typical of the beauty of the fair cities which spring from commerce. And in the age of poetry, the rise of the Queen City of the Lakes would have justified it as readily as did the birth of Tyre. It is a sublime spectacle, this sudden and perfect growth of a great mart! It is suggestive of happy thoughts of man and Providence. It is not alloyed with those feelings of horror at tyranny and pity for tasked slaves, which agitate us, when we read of the sudden founding of great capitals by ancient heroes, or when we see the great but remorseless Czar laying the foundation of St. Petersburgh, and propitiating opposing Nature by the sacrifice of unnumbered human hecatombs. Here, freemen labored, not for fame, nor for the attainment of excessive wealth,—those delusive phantoms which ever mock their pursuers—but competency, and present happiness, and the pleasure of indulging their strong energies in the promotion of happiness around them. Hence the Doric plainness,—if you will, the uncouthness,—of some portions of our city, and the absence of those splendid monuments of art, which are too often paid for with blood, or

with the accumulated mites wrung from a miserable people. These things will most surely be added unto us; and we care not how soon, for they will never be polluted by a single curse of Poverty, nor desecrated by the tread of strong Injustice. They will be free-will offerings of affluent Liberty to Taste, Utility and Virtue—or may they never be!

The man who first swung the axe and built a house in Buffalo, died, in the full possession of his faculties, but a few weeks ago. He might have witnessed our whole history. But we cannot date our city's origin in so remote and misty an era as a century ago. The little hamlet perished in ashes thirty-three years since,—the computed duration of a generation,—and its ashes were not vivified for two years after. But then again, the petty village was rather the predecessor than the commencement of our city. Its true birth may well be traced to the completion of the Erie Canal, in 1825, and that being completed, the village was not a necessary antecedent of the emporium which was then first founded here.

That Buffalo is destined to be one of the greatest cities of the Union is universally admitted. All things are full of promise for her. The convulsions of the old contitinents are unfelt in this. European capital will seek investment where alone it seems secure; and affrighted multitudes will flee for shelter to the only country in the world where peace can be secure, and where war can wreak comparatively but little injury. The prosperity of the United States must be greatly augmented, and, whether the East is invigorated, or the West developed, Buffalo will surely reap a rich share of the harvest. Manufactures, purged of all debasement and oppression, are rising in her bosom; honest labor is happy in innumerable employments; prudent enterprise is expanding her resources; capital is flowing in; and, above all, a commerce boundless as the West, limitless as the necessities of man, fertilizing as the Nile, and humanizing in all its tendencies, and which can never be diverted, warrants and confirms our most exalted hopes.

THE CITY OF BUFFALO:

A GLANCE

AT ITS PROGRESS DOWN TO THE PRESENT TIME.

BY SANFORD B. HUNT,

EDITOR MORNING EXPRESS.

THE annalist, in taking up the thread of our local history, where it was dropped by Judge Clinton in 1847, finds himself embarrassed by the rapid progress and substantial changes of the intervening period. The idea—as old as the Erie Canal—that Buffalo was destined to be a great commercial city, has been fully realized. Few, fifteen years ago, could have honestly predicted the gigantic commerce of 1861; and fewer still, believing such a triumph possible, could have surmised that it would only be reached through a period of profound discouragement, and that, when attained, it would be found to be insufficient to the nutrition of the city. Yet nothing is now more certain—and it is well to add—nothing more fixed in the minds of Buffalonians, than that the commerce of the West, however grand, has its limit as a supporting power, and cannot be forced beyond it. It was from this conviction, that the people of this city, by an action unusually successful as a popular movement, deliberately resolved to divert their surplus energies from traffic to manufactures, and so devolved upon the historian the necessity of recording a change in the character of the town which has left a lasting impress.

In 1847, and for several successive years; Buffalo was essentially a maratime town. Its harbor was serviceable, but narrow and inconvenient; and the frequent arrivals and departures crowded the narrow water-way so as to give an air of wonderful life and activity to the region of the wharves. Passenger steamboats were in their glory, numerous lines leaving daily, crowded with passengers, advertised with wonderful pertinacity by the class of "runners"—very remarkable men in their way—and adding to the seductions of this persuasive system, the charms of music discoursed at all hours, on Sundays as well as week-days, from the guards of the steamboats. Elevators were only an experiment then, and a vast number of long-shore men were supported by the labor of handling freight by inconvenient processes. Carts, too, were in great requisition; canal boats were small and numerous, and the result was a business which advertised itself by its own bustle and by the crowd which was constantly maintained in the narrow quarters where it was transacted, and through which every stranger passed on his way east or west.

Gradually the bustle ceased. Labor-saving contrivances drove away a host of long-shore men. The elevators usurped the function of the Irishman. The harbor itself grew apace. New canals were opened, basins constructed, and a larger commerce dif-

fused over a larger surface, made a smaller exhibit than before. The region of the water side grew dull when the buckets of the elevator, propelled by steam, lifted three thousand bushels of grain per hour from the hold of a vessel. The trade was there, but the hurrah was gone, and it fed fewer mouths. Railroads came in to the aid of this. Extending westward, on the lake shore and through Canada, they stole away the passenger traffic, and left the "floating palaces" to rot in the Ship Canal, where some of them still lie, useless and hopeless. Lake freighting is now done by propellers exclusively, a kind of craft then only beginning to be known, and laughed at as "slow steamboats." At that time—or rather in 1846—there were in commission on the upper lakes 64 steamboats, and only 21 propellers: while now the register of Buffalo shipping shows only 9 steamboats (of which 5 are ferry boats and the other 4 laid up,) while the list of propellers owned here is 48 in number. But such a comparison imperfectly exhibits the change. Nearly all the shipping of the upper lakes is tributary to Buffalo, and a comparison of the years 1847 and 1861, including the total of each class and their tonnage, will be interesting:

	1847	1861
Steamboats	64	71
Propellers	21	182
Sail	267	913
	352	1166

Of the steamboats credited to 1861, not all are in use, and few are profitable. The day of bands of music and runners has departed forever.

These changes, however, though diminishing the appearance of activity in the town, were only the results of healthful change. We grew and prospered quietly, the city increasing in population and strength of capital, labor itself, by a natural process, turning to mechanics and to the rapidly growing railroads, until, say in 1856, a climax seemed to have been reached. The limit of commerce to support the town had been discovered. So many shipbuilders to build, so many sailors to navigate, so many machinists to make engines, so many laborers to handle freight by rail or water, so many canallers, so many produce dealers, and beyond these as many professional and mercantile men and mechanics as were needed to take care of the souls, bodies and stomachs of the others. These were all to be fed by commerce changing with the seasons, one year rich in fruits, and another too small for the demand upon it.

Should Buffalo go backward? Should it be always the sport of prosperous and unprosperous years, relying on the luck of Irish famines, Crimean and Italian wars, and especially liable to be crushed by monetary panics? Following the wild financial panic of 1857, these questions became urgent. There was a deal of newspaper writing on the subject. Legislatures and Canal Boards were hounded for concessions on tolls, for restrictions on railroads, for something that would make the same business feed more mouths. Wholesale mercantile traffic had almost perished in the new order of things begotten by new means of communication, unbroken by winters and regardless of bad roads. It seemed as if there were but two points on our parallel of latitude, New York and Chicago, and that all between were way stations. "*Make more business*," said some one. For in spite of all grumbling Buffalo had solid wealth. The real estate holders, buying in early days for nothing and selling in the flush times for mints of money, and some classes of manufacturers, had abundant means. To call these out became the first law of nature. Self-preservation dictated that the wealth accumulated in the chances of real estate speculation should be turned toward manufactures. To uphold the value of real estate we needed an increased consuming population to rent houses, to buy provisions and dry goods, and to furnish occupation for middle men.

The work was taken hold of in earnest. To go back a little in our history, Buffalo had flourished from year to year from 1847 to 1857, affected by no serious drawbacks, dependent mostly on its commerce and the manufactures which commerce coerced into existence, and knowing no change except in the gradual yet certain transfer of the passenger traffic from the water to the land routes. The panic of 1857 destroyed the

illusive prosperity. Real estate sank rapidly to a rational value. The labor-saving elevators, together with the increasing success of railroads as a means of winter shipment, empted the warehouses that lined the wharves, and diverted to sea-board cities the wholesale trade in merchandise. Retail traffic drifted up-town to the neighborhood of its customers. The eastern side of the city, sought at first for shelter from the lake winds, gradually fell in popularity as the wide and airy streets of the west side became appreciated, and this exodus was aided by the occupation of a broad belt of its territory by new canals and railroads. Such was the condition in which Buffalo met the panic of 1857.

Since that time, five years have passed. The gratest event of that semi-decade was the completion of the Erie Canal Enlargement. The tonnage of the canal boat, by a process so gradual that owners suffered no loss, has grown from 90 to 220 tons, and the cost of transit has been proportionally decreased as the capacity has become enlarged. The old supremacy of this water route is re-established, with room enough left for improvement to meet any probable increase in railroad competition. The railroads themselves, with abundant chartered privileges, have passed that formation and transition period out of which so many hostilities were begotten, and are now wedded with the canals in a harmonious system which is profitable to each, and in which each find all their resources taxed to meet the enormous draft upon their energies.

Gradually lifting from the effects of the panic, the city resumed its wonted prosperity, but learned a lesson from the past. It needed a permanent business, separated from the lake commerce and independent of its fluctuations, to hold it steady in future crises. In 1860, an "Association for the Encouragement of Manufactures in the City of Buffalo," was organized and carried on with energy. Directly, it only called out the enterprise of others. Indirectly, it encouraged the work it had assumed, by an extended system of *advertising the city at large*. It sent its circulars announcing that real estate was cheap, living economical and rents low in a city of 80,000 inhabitants, having fifty-two miles of splendidly paved streets, forty-eight miles of sewerage, two hundred and sixty miles of streets paved and unpaved, gas everywhere, and water of the purist; that its schools were unsurpassed, and religious privileges abundant. To these were added the position of a town as a center for all markets, and it cannot be doubted that the transactions of this Association gave a healthy impulse to the returning tide of prosperity. A list of the manufactures of Buffalo, published by this agency, covers thirty-two pages of closely printed duodecimo, and affords an endless catalogue of articles.

At the same time and in pursuance of this manufacturing policy, two large blast furnaces were built here for the smelting of iron ore. One of these, that of Palmer & Wadsworth, representatives of great estates in this vicinity, has been in busy and successful operation for a year past. The other, that of Warren & Thompson, has been recently allied with it, and the two will hereafter work in unison, affording work for a full fleet of lake and canal craft hereafter. Other and numerous enterprises of the same sort have been entered upon, until we can write down the City of Buffalo in the Spring of 1862, as more populous, more prosperous, and having before it a more brilliant future than ever before.

Let it not be understood that in saying that Buffalo has sought safety in manufactures, and given her surplus energies to their encouragement, that she has lost confidence in her commercial supremacy. We quote from the able "Annual Report of Trade and Commerce" of the Buffalo Daily *Express*, prepared by Mr. E. H. Walker, the following comparative statements and statistics of past and present commerce:

ARRIVALS AND DEPARTURES BY LAKE.

The following shows the grand total of arrivals and departures from the Port of Buffalo, the tonnage of the vessels employed, and the number of seamen engaged, for the years 1852 and 1861:

	Arrived and Cleared.	Tonnage.	Seamen.
1852	9,441	3,092,247	127,491
1861	13,886	5,963,896	144,173

COMMERCE IN FLOUR AND GRAIN.

The following table shows the amount of flour and grain received at the several important ports during the year 1861:

	Flour, bbls.	Grain, bush.
New York	5,013,053	58,373,036
Buffalo	2,159,591	50,597,302
Chicago	1,479,284	46,770,587
Milwaukee	492,259	16,317,332
Oswego	118,056	16,435,330
Toledo	1,406,476	11,674,130
Montreal	987,324	9,160,288
St. Louis	484,000	9,223,599
Detroit	760,717	3,363,865
Dunkirk	736,529	842,136
Ogdensburgh	411,488	1,796,980
Odessa (1859)	------	18,812,457

The following statement of the receipts of Flour, Wheat, Corn, Oats, Barley and Rye, at Buffalo, from 1836 to 1861 inclusive, will show in a condensed form the progress, magnitude and importance of the flour and grain trade of this city:

Years.	Flour.	Wheat.	Corn.	Oats.	Barley.	Rye.
1836	139,178	304,090	204,355	28,640	4,876	1,500
1837	126,805	450,350	94,490	2,553	----	3,267
1838	277,620	933,117	34,148	6,577	----	909
1839	294,125	1,117,262	----	----	----	----
1840	597,142	1,004,561	71,327	----	----	----
1841	730,040	1,635,000	201,031	14,144	----	2,150
1842	734,308	1,555,420	454,530	----	4,710	1.268
1843	917,517	1,827,241	223,963	2,489	----	1,332
1844	915,030	2,177,500	137,978	18,017	1,617	456
1845	746,750	1,770,740	54,200	23,100	----	----
1846	1,374,529	4,744,184	1,455.258	218,300	47,530	28,250
1847	1,857,000	6,489,100	2,862,300	446,000	----	70,787
1848	1,249,000	4,520,117	2,298.000	560,000	6	17,889
1849	1,207,435	4,943,978	3,321,651	362,384	----	----
1850	1,103,039	3,681,347	2,593,378	357,580	3,600	----
1851	1,258,224	4,167,121	5,988,775	1,140,340	142,773	10,652
1852	1,299,513	5,549,778	5,136,746	2,596,231	497,913	112,251
1853	975,557	5,420,043	8.065,793	1,480,655	401,098	107,152
1854	739,756	3,510,792	10,108,983	4,441,739	313,885	177.066
1855	936,761	8,022,126	9,711,439	2,693,222	62,304	299.591
1856	1,126,048	8,465,671	9,633,277	1,733,382	46,327	245,810
1857	845,953	8,334,179	5,713,611	1,214.760	37,844	48.536
1858	1,536,109	10,671,550	6,621,668	2,275,241	308,371	125,214
1859	1,420,333	9,234,652	3,113,653	1,394,502	361,560	124,693
1860	1,122,335	18,502,649	11,386,217	1,209,594	262,158	86,822
1861	2,159,591	27,105,219	21,024,657	1,797,905	313,757	337,764

Aside from the cereals, the Custom House returns show the following quantities of a few important staples arriving here by lake during 1861:

Alcohol, bbls.	11,680	Iron, lbs.	2,040,856
Bacon, lbs.	2,347,825	Iron Ore, tons	3,544
Butter, lbs.	2,028,615	Lumber, feet	58,082,713
Hides, No.	59,993	Staves, No.	25,228,978
Hoops, No.	16,295,360	Shingles, No.	15,787,100

The immensity of the commerce involved in these figures can best be expressed in the simple statement that vessels, averaging over 300 tons burthen, passed in and out of our harbor, during the year, 13,886 times, to bring to Buffalo the products of the West, and carry from it the merchandise of the East. To this let us add that the supply of means of transportation was so inadequate as to occasion extravagantly high rates of freight during all the season, and that the Canals and the Railroads participated fully in this era of success.

What else has Buffalo done worthy of record in our annals? When, in April, 1861, the alarm gun of civil war was fired from Sumter, Buffalo rallied promptly to the rescue of the flag. A very few weeks sufficed to call together and organize a full Regiment, known as the 21st N. Y. S. V., Col. William F. Rogers, while during and subsequent to its organization many isolated companies and detachments were recruited and enlisted here for the volunteers and regular service. In August, the 49th Regiment N. Y. S. V., Colonel D. D. Bidwell, completed its organization and left for the seat of war. In February, the 100th Regiment N. Y. S. V., Colonel Brown, left here, constituting a part of the "Eagle Brigade" raised by General G. A. Scroggs, for which about half another Regiment was also raised here. A full Company, Captain Chapin's, of the People's Ellsworth Regiment, 44th N. Y. S. V., was from this city and county. Full Companies were also raised for other Regiments by numerous recruiting officers, among them being Captain Faxon, Captain Wiedrich, Captain Hamilton, and others, while very much of the material of a Cavalry Regiment, commanded by Colonel Lemmon, was from this locality. In all, not less than 5,000 men have been mustered into service here for the war, either in the volunteer or the regular service.

At the outset the city Common Council assumed the charge of the families of indigent soldiers, and regular weekly allowances in money have been issued to numerous worthy wives and children of soldiers, so that the war has brought no pauperism or distress upon those left behind. In this work the city treasury was aided to the amount of $25,000 by a citizens' subscription, and the management of the joint fund has been placed in the hands of a committee made up partly of citizens and partly of members of the Common Council. Parallel with this were the efforts of the ladies, acting through their various church and social organizations, until a greater harmony was secured by the consolidation of all as auxiliaries to a "Ladies' Aid Society," acting in concert with the U. S. Sanitary Commission. Through these agencies much suffering has been prevented, and the sick or wounded soldier on the banks of the Potomac has been made to feel that loving hearts and helping hands are left at home, ready with prayer and work to comfort him. As we write, still another organization designed to furnish further aid to such of our soldiers as may be wounded in the expected battles on the Potomac, is well advanced towards completion.

In the midst of all these painful suggestions of carnage and the horrors of civil war, stands the unexampled fact, peculiar to the vastness and the energy of our country, that the burden of civil war has not been sufficient to check our progress as a city. We send thousands of soldiers to the war, yet our population is larger than when the first detachment of four companies moved down Main street to the crash of music, the ringing of bells, the cheers of thousands, and the tears of many not easily moved to weeping. There can be nothing stranger, or rather more indicative of the strength of the position of Buffalo, than that it has been enriched and grown prosperous by the war, and that in the long catalogue of its successful years, that of 1861 stands foremost as a period when in all the avenues of trade and manufactures there was a flood-tide of good fortunes.

We have written a sketch and not a history. Much might have been said of worthy individual names or of private enterprises, and some kind mention might have been made of the old citizens who have laid down the harness and passed to their final rest. But once entered upon this, and upon the specification of the dates upon which each one of the thousand enterprises of an active city became operative, and the record would occupy volumes. We have spoken, therefore, only of results, leaving the men and the means by which they were accomplished to the more careful and elaborate annals of the Buffalo Historical Society, which has just commenced the work of rescuing from oblivion the rapidly perishing memories of a period of unprecedented change.

BUFFALO:

ITS MANUFACTURING, COMMERCIAL AND BUSINESS POSITION IN 1865.

BY GUY H. SALISBURY.

In glancing at the progress of our city since the spring of 1862, when the last preceding sketch was written, we may well call attention to the fact, that the permanent elements of its prosperity have been more largely developed than at any former period. Its facilities for transacting the rapidly augmenting produce business of the West, have been rendered so ample, that it securely holds the position of one of the greatest Grain Marts of the World. In fact, the business of the largest grain markets of the Continent of Europe, is unimportant, compared with that which now pours into Buffalo from the exhaustless granaries of the wide prairies and fertile valleys of the immense regions westward of this point. Its capabilities, too, for all branches of manufactures, from the production of the great staple of Iron, and the working of it up into the multifarious forms which the Protean hand of Art furnishes for the wants of consumers, to the innumerable minor articles requiring practical ingenuity, and diversified labor, have been established beyond question. The Titan Steam, with more than Briarean arms, is ever busy in its workshops, with tireless toil, accomplishing useful results, of which the aggregate is hardly guessed by even our own citizens.

When a full supply of cheap and good coal shall be assured to us—and steps are being taken to soon secure it—meeting here the iron, copper and lead, of the vast mineral regions of the Northwest—here, where a numerous working population are busily employed, with strong or skillful hands, to transform those valuable ores into every imaginable shape, we can scarcely set limits to the extent and importance of the Manufactures of Buffalo. That this is beginning to be appreciated abroad, we have evidence in the fact that capital is flowing hither from other quarters, and being invested in various branches of mechanical production.

Thus building up, with a sure and healthy growth, it is not surprising that, notwithstanding thousands have been sent forth from this locality, in the several military organizations, to aid in suppressing the Southern Rebellion, there has been a steady and considerable increase of our permanent population. Yet, from the somewhat exaggerated estimates which were made, in advance, as to the number the State census of 1865 would give us, and the imperfect manner in which that enumeration was made, we do not show the large positive increase that was anticipated. But we have the best reasons for believing that our population, at this time, is over 100,000. That there has been an actual and substantial addition to the resident families among us, is satisfactorily shown by the increased demands for dwellings, at much higher rents than

heretofore, and the gratifying fact that real estate has met with readier sales, although not at unreasonable or speculative prices.

The population of Buffalo, each semi-decade, for the past forty years, has been as follows:

1825,	2,412	1830,	8,668
1835,	15,661	1840,	18,213
1845,	29,773	1850,	42,261
1855,	74,214	1860,	81,129
1865, say	100,000		

In contemplating the future of our city, we should take in the fact, that it is to be one of the points on the Great Pacific Railroad—which, spanning a Continent, is to connect the Eastern and the Western Oceans, and be the International Highway for the commerce of empires. Our position with reference to either of the two Northern routes, clearly indicates the share we may claim in the benefits of this immense National enterprise.

As an element of present growth, it may be mentioned, that the constant increase of manufacturing establishments, furnishing employment to many operatives, who so greatly aid in strengthening the foundations and advancing the fortunes of a city, has stimulated, in an unprecedented degree, the building of comfortable homes for the working classes. The "Union Iron Works"—comprising the large establishments originally started by Palmer & Wadsworth, and Warren, Thompson and others—have built up quite a village around their works, occupied solely by their workmen and families, and contemplate erecting more. Pratt & Co. have also put up neat cottages, in the neighborhood of their extensive Iron Works, and made that portion of the hitherto quiet locality of Black Rock, a busy hive of industry.

The wonderful development of Petroleum, from the innumerable wells which have been sunk in different parts of the country during the past five years, has given birth to an astonishing activity in all branches connected with the Oil interest. Ten Refineries have been established here, whose supplies of crude oil come mostly from Pennsylvania. Buffalo, in fact, may claim a prominent position in the Oil trade. The well known house of F. S. Pease, has long been noted for its superior Oils, which it is constantly shipping to foreign markets, where they are in demand. His elaborate and interesting Oil Circulars, published yearly, have given him a wide-spread reputation, both in this country and in Europe. An article, specially relating to the Oil interest, prepared by Mr. Pease, will be found in our pages.

The growing importance of our manufacturing interests, induces us to gaze with commendable pride upon the busy, glowing picture of those industrial activities; but we must not overlook the vast commercial transactions which are daily taking place in our harbor, and along its wharves. The demands of trade have brought into requisition a large number of Propellers, in addition to the many sail vessels whose white wings used to sweep the Lakes alone, and they perform their trips with increased speed, safety and certainty. The vessels remaining in commission are some of them of large capacity, carrying 18,000 to 28,000 bushels of grain, and the smaller craft find mostly freight of coal, staves, lumber, salt, &c. A very large part of the Lake business is now transacted by a few mammoth steam lines, having facilities for daily trips, and running in connection with the leading railroads. The propellers of the New York Central Railroad, the Erie Railway, the People's Line, and the Western Transportation Company, are most of them models of their class of boats, combining strength, speed and beauty.

Much of the extraordinary commercial prosperity with which Buffalo has been favored during the past four years, has undoubtedly been due to the fact, that the stoppage of communication between the North and South, on the great channel of the Mississippi and the derangement of railway lines in the middle States—particularly the Baltimore & Ohio—had the effect to throw a vast amount of the internal commerce of the country through Northern routes. It was quite common to see those staples of Southern production, Cotton, Sugar, Molasses, Tobacco, &c., unloading at our wharves, awaiting further transportation Eastward.

Although thus impelled to seek a Northern route, by the force of unwonted circumstances, it may not be unreasonable to suppose, that the favorable relations established between the producers and dealers in the Southern staples, and their agents and factors at the North, during the four years of interruption to their former routes, will induce them to continue their business here, to some extent, now that the obstacles are removed. Yet should such extraneous shipments be wholly withheld, there will still be abundant sources from whence the future commerce of Buffalo and the Lakes will find full and profitable employment. When we take into consideration the rapidly augmenting crops of cereals in the West, and the mineral productions of the Northwest, comparatively undeveloped, the lumber, salt, furs, cattle, sheep, swine, wool, hides, products of the dairy, &c., &c., that are destined by the laws of trade to seek the seaboard, we can well believe, that every existing channel, whether by Lake, Canal, or Railway, will be required for the transactions of that vast internal trade, which exceeds in amount the aggregate of the foreign commerce of the Union.

The number of arrivals and departures from the Port of Buffalo, for each year since 1861, and the movements of flour and grain, is shown below:

ARRIVALS AND DEPARTURES BY LAKE.

The aggregate of arrivals and departures from the Port of Buffalo, the total tonnage, and the number of seamen employed, for the past five years, were as follows:

	Arrived and Cleared.	Tonnage.	Seamen.
1861	13,886	5,963,896	144,173
1862	16,390	6,689,191	166,133
1863	15,376	6,757,903	157,415
1864	14,105	6,891,348	148,161
1865*			

THE GRAIN TRADE.

The statistics of the Grain Trade of Buffalo, present us with some striking contrasts, and illustrate, at a glance, its progress. In 1837, the receipts of Flour were 125,805 bbls.—in 1862, 3,506,022 bbls. In 1846, we sent Eastward, by canal, 1,437,994 bbls. —in 1864, but 126,820 bbls.—that article being almost wholly taken by the railroads. In 1836, the receipts of Wheat were 304,090 bushels—in 1864, 17,677,549 bushels, (not including flour reduced to wheat.) Of Corn, there were received here, in 1845, but 54,200 bushels—in 1862, 24,288,627 bushels. The receipts of 1864 were lessened full fifty per cent. by the deficient crop. Of Oats, there were received, in 1843, but 2,489 bushels—in 1864, no less than 11,682,637 bushels!

The following table will show the comparative receipts of Grain, at this Port, for the past five years:

	Bushels.
1861	61,460,601
1862	72,872,454
1863	64,735,510
1864	51,177,146
1865 to October 1st	28,771,090

The great increase in the commerce of 1862, over that of 1861, was due to the large crop and active foreign demand, which brought out every craft that could float. Although the small crop of 1864, and the absence of foreign demand, owing to the high prices ruling here, in depreciated currency, gave us a much smaller amount of receipts than we expected, yet, comparing our trade with that of Odessa, the greatest grain market on the Continent of Europe, we find that even in 1864, our grain business was two and a half times larger! And the published statistics of our Board of Trade show that more grain is handled here than at Chicago, the granary of the Northwest, or at New York City, the great outlet to all the markets of the World!

In addition to the large business transacted by Lake and Canal, the lines of railway converging to this point, add much to the activity of our streets and wharves, during

* Not yet reported, but somewhat larger than in 1864.

the business season. The New York Central, the Erie, with its branches, and important connection with the Atlantic and Great Western, the Lake Shore, the Buffalo and Lake Huron, connecting with the Great Western and Grand Trunk of Canada, give us thousands of miles of business communication, in all directions.

Besides these, we are soon to have a branch of the Atlantic and Great Western, to communicate with the great Canada lines by the proposed magnificent International Bridge, across the Niagara River, now certainly to be built forthwith, in connection with the Erie and Ontario Railway between Lakes Erie and Ontario; and the projected railway from this city to connect with the Philadelphia and Erie road at Emporium, (formerly Shippen,) by which we are to have not only a new and advantageous route to New York, Philadelphia, Baltimore and Washington, but are thus at last to reach the invaluable coal fields of Northern Pennsylvania, and to soon furnish our citizens and manufacturers with an abundant supply of cheap fuel. This road is called the Buffalo and Washington Railway. And the Oil Regions, too, are to be practically brought nearer to us by the Buffalo and Oil Creek Railway, which has been recently taken in hand by citizens of wealth and influence among us.

A most noticeable and important feature in the improvements which have characterized and marked the growth of Buffalo for the past five years, is the enormous increase in our facilities for receiving, storing and shipping grain, created by the erection of the numerous and extensive Elevators which line our harbor. The following list gives the names of these structures, with their storage and transferring capacity:

Elevating Warehouses.	Capacity for Storage, bushels.	Transfer Capacity per day, bushels.
Bennett (formerly Dart; burnt and rebuilt, 1863,)	600,000	96,000
Buffalo,	125,000	96,000
Coatsworth,	40,000	50,000
C. J. Wells (formerly Coburn; burnt 1863, and rebuilt,)	350,000	96,000
City,	450,000	96,000
Evans (burnt and rebuilt, 1863,)	300,000	96,000
Empire,	200,000	96,000
Erie Basin (at Buffalo and Lake Huron Road,)	200,000	96,000
Exchange,	200,000	96,000
Excelsior,	30,000	96,000
Floating Elevators, 1 and 2,	30,000	192,000
Marine (formerly Hatch,)	200,000	168,000
Merchants',	30,000	96,000
New York & Erie (at Erie Railroad,)	200,000	96,000
Reed (built in 1862,)	200,000	96,000
Richmond (new, built in 1864,)	280,000	144,000
Sturges (built in 1863,)	325,000	96,000
Sternberg (two buildings, A and B,)	350,000	96,000
Sterling (burnt and rebuilt, 1863,)	150,000	96,000
Union,	40,000	96,000
Wells,	90,000	96,000
Seymour & Wells,	125,000	96,000
Wilkeson (burnt 1863, and rebuilt,)	280,000	96,000
Watson (built 1863,)	600,000	288,000
Williams,	150,000	96,000
Total capacity,	5,495,000	2,616,000

Two other Elevators—the Main Street and Corn Dock—were desrroyed by fire, the present season. Their storage capacity was about 400,000 bushels, and could elevate per day, nearly 200,000 bushels.

It is not generally known, that to Buffalo belongs the honor of having introduced the system of elevating and storing grain, by steam for commercial purposes. Elevators had been in use, to a limited extent, for transferring grain from vessels to flouring mills, but not as an auxiliary to commerce. In 1843, our fellow citizen, Joseph Dart, built, on our harbor, the first Elevator, of that kind, in the world. It was looked upon by practical men, as a doubtful experiment.

It had only a storage capacity of 55,000 bushels, and could transfer but 1,000 bushels per hour. But the success of the enterprise was at once demonstrated, in

spite of all obstacles, and Mr. Dart has lived to see twenty-seven lofty and capacious Elevators lift their imposing towers along the borders of our harbor. The large and costly one built by D. S. Bennett, now occupies the site where that of Mr. Dart's stood. William Wells, now of the firm of Seymour & Wells, Wadsworth Elevator, was foreman for Mr. Dart, when his Elevator was put in operation, and is therefore the oldest Elevator man, now in the business, in the world.

The original narrow limits of our harbor—which was merely the channel of the Creek, from the pier to the toll bridge—were so much extended when the Ohio and Erie Basins, the Blackwell Ship Canal, and connecting slips, were excavated, and the Breakwater constructed, that it seemed as if enough harbor room and wharfage were secured for half a century to come. But the wants of commerce and manufactures have already occupied most of the ample space then provided, and the large establishment of the Union Iron Works, located above the toll-bridge, requiring daily vessel loads of ore and coal, induced an effort to still farther extend the harbor up the Creek. To accomplish this, a channel has been cut around the northerly end of the bridge, and the Creek deepened above that point, by the removal of its rocky bottom, so as to allow vessels drawing twelve feet to pass up to the wharves of the Iron Works, and above. This expensive enterprise opens an additional Creek front of many thousand feet; and the territory thus made available will furnish suitable locations for coal and lumber yards, ship and canal boat building, &c., and thus relieve the more densely occupied portions of our harbor from some of the obstructions that have often caused vexatious delays in the discharge of cargoes, and movement of lake and canal craft.

The Sea Wall which was constructed by the General Government, some twenty years ago, for the protection of the low lands adjoining the Creek, against the waters of the Lake in heavy gales, has lately been considerably extended and repaired by the Government, the better to accomplish the object.

In connection with the subject of our harbor and its commerce, may be mentioned the superior ship building done at this Port. Some of the finest vessels of their class —both sail and steam—that are to be found anywhere, are built at our yards. The beautiful and staunch propellers which have been there launched, are unrivalled by any on the Lakes. Repairs of boats and vessels are likewise readily accomplished by means of seven dry-docks of ample dimensions. At no point on the Lakes can ship building and repairing, in all their details, be done to better advantage. Engines, boilers, and machinery of the best construction, can be furnished by several establishments within a short distance from the ship yards, and the fitting up of boats and vessels in every department of use or luxury, is likewise to be had in a style unsurpassed in the country. The mammoth palace steamers which were here put afloat, a few years since, for the passenger travel that thronged the Lakes, before the competing railroads had taken it away, where then without superiors on any waters, in model, speed, cost and magnificence of appointments.

Turning from the gratifying picture of our commercial and industrial prosperity, we are proud to contemplate the educational, religious, and social aspect of our favored city. With a system of Public Schools, affording the benefits of free instruction to thousands of youth who are growing up to take their places in the respective positions of society, a Female Seminary of the highest character, excellent private schools, a Medical College of deserved repute, with humane and charitable institutions of enlarged beneficence, we need not fear comparison with any of the cities of the Union. The moral and religious culture of this community, is well evidenced by the numerous and beautiful churches that rear their sacred spires high above our thronged business marts, and the thousands of clustering homes around them; while our municipal regulations for preservation of good order, safety of persons and property, and prevention and punishment of crime, are as wisely and vigorously administered as in any part of this broad land. An unlimited supply of water from the blue current of Niagara, contributes to private convenience, and adds greatly to our safety from disastrous conflagrations. One of the best Gas Works in the country, furnishes an abundant quantity of that now indispensable element of light to every part of our wide-spread city. Broad

and clean streets, often bordered with grateful and graceful shade trees, and paved in a most superior manner, have long been a feature which has deservedly characterized Buffalo as one of the most beautiful and pleasant cities of the North.

The architecture of the city is improving, year by year, and has given us many elegant monuments of taste and liberality. We have recently witnessed the erection of several fine churches, which are truly public ornaments. Among them may be mentioned the Westminster, Calvary, Church of the Messiah, St. Joseph's and the Jesuit Cathedrals; while those of older date, St. Paul's, St. John's, Central Presbyterian, and North Churches, are creditable structures. Many of our private dwellings are of palatial character. Some, on the noble avenues of Main, Delaware, Franklin and Niagara streets, would do no discredit to the famous Fifth Avenue of the Great Commercial Metropolis of America.

While Buffalo has not been destitute of good hotels, it has been a general complaint throughout the country, on the part of the traveling public and business men, whose pursuits led them to make frequent journeys here, that we did not come up to the standard in hotel keeping, that we had attained in many other things which belong to a large city. And since the destruction of the Clarendon and the American, and the conversion of the St. James to other purposes, the deficiency of first class hotel accommodations has been so manifestly apparent, that movements were made, last Spring, by a number of public spirited persons, to procure the erection of a suitable building on a large scale. The enterprise has not, as yet, been carried any further than the procurement of plans, estimates, &c.; but our energetic townsman, George W. Tifft, has met the public demand, for the present, by putting up the "Tifft House," on the site of the "Old Phœnix Hotel." This elegant building is conveniently arranged for a first class hotel, and is well kept by the Messrs. Hodges, who were so long identified with the "American."

A long stride in the way of modern improvement was made when steam fire engines were introduced into our city. Their great capacity for work, with untiring sinews of steel, fit them to cope with the fiercest conflagration, far better than can the best efforts of the noble firemen, who have so bravely "fought fire" for our safety, for more than forty years. Buffalo was proud of those men, with their stalwart forms, their neat uniforms, their finely kept and gaily decked "machines," their engine houses so often tastefully and elegantly fitted up—proud of their heroism, their enthusiasm, their general good conduct. We could not but regret to see company after company fall away, as the new steam engines one by one superseded their services. Yet the change was one of public necessity, and the firemen have yielded gracefully and quietly. But one company of the old organization remains, No. 9, located at the "Hydraulics," and continues to do duty manfully, whenever occasion calls for its services. The city now owns six steam engines, which are attended by five volunteer hose companies.

One of the most creditable and useful institutions of the city, is the "Young Men's Association." For thirty years it has diffused its benefits among all classes of our community. Foremost in its management have ever been the most intelligent, energetic and public spirited of our citizens. Its Presidents and Managers have been, from first to last, our leading business men. The importance of its position, and its capabilities for future usefulness, have been so sensibly felt, that within the last two years, most spirited and successful efforts have been made to establish it upon an assured basis of present and continuous prosperity. For the purpose of providing it with a suitable and permanent home, a subscription was suggested, which was most nobly and munificently responded to. Sums from $3,000 downward were freely and promptly subscribed, and the effort resulted in the purchase of the stately pile of buildings known as the "St. James Hotel," and the "St. James Hall. By a judicious and liberal outlay, under the untiring supervision of the late President of the Association, S. V. R. Watson, aided by the Managing Committee, those buildings were speedily transformed to suit the new purposes to which they were to be devoted. Within their ample walls, suitable rooms were found for the library, cabinet and reading rooms of the Association; for the Fine Arts Academy, with its gallery of rich gems in Painting, Sculpture, &c.; for the So-

ciety of Natural Sciences, with its choice specimens in various departments of Nature; for the Historical Society, with its invaluable collection of whatever illustrates and perpetuates our Local History; for the Grosvenor Library, a most beneficent provision in aid of the mental improvement of our citizens; for the Law Library, with its treasures of legal knowledge; for the Young Men's Christian Union, of noble aims and disinterested benevolence; for the Young Men's Catholic Association; for the Buffalo Medical Association, and for the Firemen's Benevolent Association. The spacious and elegant corridors of the edifice afford convenient access to all these institutions, of cognate character, under the same roof, and thus the whole building is made a beautiful Home of Art, Science and Literature. The St. James Hall, with which it connects, is used for its courses of Lectures, &c.

A very material addition to the comfort and convenience of our citizens has been made by the Street Railroads. They have rendered distant parts of the city readily and cheaply accessible, and have correspondingly enhanced the value of lands outside its more settled limits Besides four now constructed, two others were projected—on Seneca and Ohio Streets—which the high price of labor, materials, &c., have prevented, as yet, from being built. Bating some well grounded complaints about crowded cars, and occasional irregularities of running, the Street Railroads are decidedly beneficial "institutions," and could not now be dispensed with, without paralizing the extremities of our wide-spread corporation.

Most creditable to Buffalo as a city, and to many of its patriotic and liberal inhabitants, have been the munificent contributions here made, during the progress of the fearful civil war just closed, in support of the sacred cause in which so many of our friends, and sons, and brothers, have been contending for the existence of their imperilled country. Bounties, to an enormous amount, have been lavishly paid to encourage enlistments of volunteers, or to relieve those who were drafted, but whose family ties often prevented from taking the field in person—provision has been freely made year after year, for the wants of families left behind by those who marched forth to share in the deadly strife—donations have been constantly made in response to the frequent appeals sent forth for aid to the various organizations which have extended relief and comfort to the sick and wounded soldiers—the United States Sanitary Commission, the Ladies' Aid Society, and the Christian Commission, have vied with each other in their noble work of ministering to the necessities or sufferings of the country's brave defenders—and large amounts have been unhesitatingly invested in the National loans which were required to meet the colossal expenditures of the General Government. The "Soldier's Rest," a most timely and much needed institution, has been built up out of these humane enterprises, and has contributed greatly to the relief of sick, wounded, maimed and hungry soldiers. Surely Heaven's blessing will rest upon those who have been instrumental, either by gifts or personal services, in instituting this "haven of rest." They are truly the "Good Samaritans" of the Age.

With all the natural and artificial advantages possessed by our city, it is idle to suppose that we can attain the high destiny we aspire to, without diligent, energetic, and continuous effort. Buffalo can no longer sit, as in years gone by, upon an undisputed throne, at the foot of the Inland Seas, whose waves wash the shores of so many fertile States, and lave the wide-stretched borders of the British Possessions; with the Grand Erie Canal winding its broad way from the waters of our own harbor to those of the Hudson; while railroads, radiating in every direction, are swiftly bearing their huge burdens Eastward or Westward, in obedience to the behests of Trade. Our position is not as invincible as it seemed to be before the advent of the Locomotive. Twenty-five years ago, we held the key to the exchanges of the East and West. That commerce could find no other channel, save an inconsiderable portion that passed through the Welland Canal. But the great lines of railroad began to be built, ignoring the beaten track of traffic—defying and overcoming natural obstacles. With singular fatuity, our capitalists did not even attempt to become masters of the new situation. The Erie Road planted its Western Terminus at Dunkirk, when it should have been, and might have been at Buffalo. The Great Western, with its enormous Canadian

connections, sought, at Buffalo, to connect with the American lines, but no International Bridge would Buffalo build, and so they got one at Niagara Falls. Thus were two "shunpikes" put up at once. The struggling manufacturers of Buffalo asked for plenty of cheap coal, from mines within a hundred miles of the city, and from which a paying road could have been easily and cheaply built; but the road was not made, and they have had to get coal the best way they could, and a round-about way it is.

But we believe that the influence of a new spirit is now felt, which will ensure great and substantial results. The Erie Railway now practically terminates here. The International Bridge will soon connect at this point, the Canadian and American roads, with their vast ramifications. The Coal Road is being pushed forward. Wealth has but to co-operate with Enterprise and Labor, and the capital wielded here is already large and rapidly increasing. Intelligently directed, it can create additional facilities for Commerce and Manufactures, that will largely augment the business of Buffalo, and render its future progress even more rapid than it has been. Possessing the elements of a substantial prosperity, in its advantageous location, its unquestioned supremacy as the Grain Market of the Continent, its far reaching commerce, its extensive systems of railway communication, with its admirable Public Institutions, and the known salubrity of its climate, its growth must be constant, and rapid enough to satisfy the reasonable desires of those most interested in its prosperity.

OIL, PETROLEUM, WHALING FISHERIES, ETC.

PREPARED BY F. S. PEASE.

The Oil business has had a direct bearing upon the vital interests of this country from the very first. In the Fifteenth Century, our commerce was almost fatherless; since which this branch of national industry, which has grown steadily to the present day, was one of our principal resources. In the feeble years of the American Colonies, it was regarded as the chief support of the ship building interest of the Colonies. The first act of the British Parliament which had any reference to America, was in 1548, for the protection of English fishermen on the coast. Our fleets and commerce, from 1700 to the Revolution, were exposed to extraordinary vicissitudes and necessities.

In 1730, Old England was astonished by the receipt of 154 tons of oil, and 9,200 lbs. of whalebone, from America. The Parent Country, jealous of the Colonies, and their great extent, struck an ineffectual blow at the American trade, in 1730, intended to cripple her Fisheries and commerce; but owing to the steady growth of our Fisheries, which gave strength to our then increasing commercial fleet, it was not accomplished; for it was impossible to confine to narrow limits the enterprise of a people whose sails whitened every sea, and who grasped the commerce of the world.

The ups and downs of the Whaling business, to 1812, were varied and full of interest. The War of 1812 was most disastrous to it. As an auxiliary to the Fisheries, we date the first manufacture of salt in this country.

The business in straight market oils of the Fisheries, has been one which represented almost unlimited wealth, and there has been but very little, if any, necessity to crowd it above the current demands, and consequently it has moved along in the same old channels for years.

The depredations of Confederate cruisers upon the Whaling fleet, during the past year, have caused great loss, both private and public, and have seriously affected the oil trade in both countries.

The development of Petroleum throughout the country, has progressed during the year with wonderful rapidity, and the business itself assumes and is recognized as one of great importance to the commercial world. All will acknowledge the unbounded wealth added to the country by these great oil deposits. The mania for oil speculation has been carried to an injurious excess. There is a fascination in the idea that every body who invests is sure to make a fortune, which the impulsive character of the American people induces them to readily catch at. While it encourages careless and reckless investments, it interferes with regular legitimate business, and is detrimental to individuals and the interests of the country. Vast amounts of money have been thus made, and *ten times as much lost!* Experience, of which every one seems bent on having a share, may be the means of greater success to those who profit by it in the future.

The leading position that the Oil interests of Buffalo has assumed in the commercial world, demands a passing notice. It had no definite position up to 1852–53, since which it has taken an important stand, both at home and abroad. For several years past England, Germany and California have been large consumers of a certain class of oils made in Buffalo; and later, Nevada, Mexico and the Canadas, are calling for our "Improved Oils and Petroleum." At the great World's Exhibition in 1862, Buffalo received two prize medals for superior Oil.

Petroleum has already added considerably to the manufacturing business of Buffalo. We have now ten Refineries here, at a cost of from $100,000 to 150,000, with a capacity to produce from 60,000 to 100,000 barrels a year.

The following, from the Oil Circular of F. S. Pease, for 1864, will show the consumption for that year. We are of the opinion that 1865 will not materially exceed these figures:

OIL TRADE.

The Oil trade of Buffalo, for the year 1864, has been remarkable for its firmness. There has been no speculation of note. The trade generally was reduced to a cash basis. Straight fixed oils were in greater demand than for years past. They have ruled scarce and high throughout the year. The consumption, notwithstanding the very high price of all first class oils, was very large, and exceeded 1863 at least by fifty per cent.

The very high price of prime oils, brought into market, as is usually the case, various substitutes, in all disguises, mixed and compounded, which sell only wherever price is more of an object than the saving of expensive machinery and power, and reduction of friction. Notwithstanding all the various substitutes for oils in market, the demand for first class oils in 1864 was greater than ever before. Our foreign demand for railroad oils (the best) was greater than ever before, notwithstanding the prices are higher than any year for the last twenty years.

The following are the comparative retail prices of Oils, January 1st, for the last eight years:

	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.
Sperm Oil, (Natural Winter,)	$1 35	1 40	1 50	1 60	1 75	2 00	2 10	2 45
Elephant, (W. B.)	0 90	0 87	0 80	0 80	0 85	1 15	1 35	1 80
Winter Refined Whale,	0 85	0 82	0 75	0 75	0 75	1 00	1 30	1 75
Fall Refined Whale,	0 83	0 80	0 73	0 70	0 70	0 90	1 28	1 70
Lard Oil, Winter,	0 90	0 95	0 95	1 00	0 85	0 99	1 10	2 20
Lard Oil, Fall,	0 85	0 90	0 90	0 90	0 80	0 95	1 05	2 15
Linseed Oil,	0 63	0 75	0 68	0 60	0 95	1 30	1 50	1 50
Refined Petroleum,	....	....	....	0 75	0 35	0 50	0 55	0 88

LARD AND LARD OIL.

Lard and Lard Oil have ruled high, and the demand throughout the season has been good, and fully up to the supply. Prices gradually advanced, and closed the year with remarkable firmness. Lard was firm throughout the year 1863, and the year 1864 came in with short supply and high rates, which steadily advanced to the close of the year, and was higher than the ten years preceding. Consequently Lard Oil kept pace with it, and has been exceedingly scarce, even at the very high rates.

There was a falling off in the foreign export of lard, also in the home consumption. The exports of lard from the United States were 623,690 lbs. less than in 1863—nearly half less than previous years. The consumption of Lard Oil was over 400,000 gallons in 1864, while that of Whale Oil can be set down at double the amount.

PETROLEUM.

January, 1864, came in on an inactive market. Prices for the first quarter averaged 51⅔ for refined free; naptha, 20⅔c. During the second quarter there was a better demand, and prices advanced and averaged 62c. for refined; naptha, 30c. The third quarter was more active, and prices advanced to the average of 89c. for refined, and 41c.

for naptha. The last quarter was less firm and very irregular—average 82⅔c. for refined; 47c. for naptha; and the year closed on a moderately firm, inactive market and light stock. The average for the year equals 72c. for refined and 46c. for naptha.

The consumption of crude oil during the fiscal year ending July, 1864, equalled 607,885 gallons; or 405,257 gallons refined, and 101,314 gallons naptha, &c. From July to January 1, 1865, 254,463 gallons; 169,643 gallons refined, and 42,410 gallons naptha. Amount revenue tax for the fiscal year ending July, $101,314.33; balance of the year, $42,410.59. The average for the year ending December, 1864, equalled 574,896 crude—459,917 gallons refined; 114,479 gallons naptha, &c. Taking the average price for the year and the total product of the year is in value $384,030.58. The consumption was less than half that of 1863. Prices ranged nearly one-third more. A large amount of refined oil was consigned and sold, equal to 50,000 gallons. Amount exported would equal at least two-thirds to three-fourths of the production.

	Gallons.
Amount crude in 1863	1,300,000
" Consumed in 1863	1,040,845
Amount in hand, January 1, 1864,	259,155
" Crude in 1864,	574,896
	834,051
Amount consumed 1864,	625,537
On hand, January 1, 1865,	208,514
Total value,	$384,030 58

Average price for 1864:

Refined,	72c.
Naptha,	46c.

The average for each quarter in the year 1864, at the seaboard, was:

	Crude.	Refined.	Bond.	Naptha.
First quarter,	31	56⅓	49⅛	25
Second "	40	69⅓	60⅝	36
Third "	50⅔	88	82⅔	47⅓
Fourth "	46½	85	68⅔	50
Average for the year,	41.81	74.61	65.03	39.54

The exports of petroleum from the United States for the year 1864 have been large —equal to 31,792,972 gallons [this includes crude and refined,] against 28,250,721 gallons in 1863, and 10,955,991 gallons in 1862.

The products of the wells we estimated in 1863 at 2,000,000 barrels, or 80,000,000 gallons for the year; being some 10,645,735 gallons more than in 1862. Our exports in 1862 are allowed to be only one-fifth of the entire products of the wells in 1863. Our exports were a little less than three-quarters of the estimated production, or 4,752,163 gallons. Our exports in 1863 were 28,250,721 gallons, including crude and refined. This export of 1863, reduced to crude oil, equals 35,785,246 gallons. In other words, this amount was consumed to export 28,250,721 gallons of oil, consisting of crude and refined.

The exports of 1864 we estimated at 31,792,971 gallons, including crude and refined. Reduced to crude oil, and allowing one-third to be crude and the two-thirds refined, and the yield of refined to be 60 per cent., and it required 40,271,097 gallons to export this amount.

The production of the oil wells we estimated for the year 1864 at 2,700,000 barrels. Oil Creek, at 4,600 barrels; Alleghany region, about 1,400; Virginia and other regions, about 1,000 barrels daily; total, 7,000 barrels per day (this is liberal,) and equal to

2,191,000 barrels for the year, and equals 87,640,000 gallons, or only 7,640,000 gallons more than our last year's estimates, in which were not included the small producing territories which this year we are enabled to include.

The home consumption in the States has been large, and we estimate the amount at one-third over 1863, while the exports are nearly one-fifth greater.

There has not been a corresponding increase in production of oil compared with the exports and consumption; in fact there is but a little better show than in 1863.

The season's mining shows a large number of wells drilled. This is necessary in order to supply the deficiency of the old ones, but the increase of the supply is not in a corresponding ratio with the wants, as compared with previous years.

The average price for the year at seaboard is: Crude, 41.81; refined free, 74.61; in bond, 65.03; naptha, 39.54. Compared with 1863:

	Crude.	Refined free.	Refined in bond.	Naptha.
1864,	41.81	74.61	65.03	39.54
1863,	27.75	52.33½	44	28.59

Shaping the foregoing figures for the average and the prices at the seaboard, and we estimate the pretroleum products, for the United States, as follows:

	Gallons.
On hand January 1, 1864, equal to crude,	29,658,698
Product of the Wells, 1864,	87,640,000
	117,298,698

View of the entire production of Petroleum in the United States; amount of Exports; Consumed; in Hand; total for the years 1862, 1863 and 1864; and total value of each year.

	1862.	1863.	1864.
Exports,	13,871,252	28,250,721	31,790,971
Consumed,	36,990,020	23,608,614	31,478,150
On hand,	18,495,003	23,414,762	26,019,624
Total for the year,	68,356,275	98,495,003	117,298,693
Value,	$14,670,358.53	$33,610,060.43	$57,268,458.02

The products of Coal Oil are not included.

Average price for 1862, 1863 and 1864:

	1862.	1863.	1864.
Crude,	18c.	27¾c.	41.81
Refined, free,	33c.	52½c.	74.61
Refined, in bond,	22c.	44c.	65.03

Petroleum has been an article of so much importance during the past year that the fluctuations of gold and exchange have had a marked effect upon it, and tended to sustain and enhance the price of the article above its true value. The facilities for getting oil to market have greatly increased over 1863, but are still far inadequate to meet the pressing wants of Oildom. The exports, as per table, are large compared with previous years, showing the increasing foreign demand:

Total exports in—	1864.	1863.	
From New York,	21,335,784	19,547,604	gallons.
" Boston,	1,696,307	2,049,631	"
" Philadelphia,	7,760,148	5,395,788	"
" Baltimore,	929,971	915,866	"
" Portland,	70,762	342,082	"
	31,792,972	28,250,721	"

There were 80,000 gallons refined exported from Cleveland direct to Liverpool.

The exports to Liverpool and London were considerably less than in 1863. Cork, Havre and Marseilles show a large increase, while Antwerp received nearly one-eighth of the entire exports.

The consumption was not as large as in 1862, while the value was more than double.

LINSEED AND OIL.

There was a gradual advance in price for the first six months of the year, the next three months the market was dull and declined; in November and December prices improved again—the highest $1.80 and lowest $1.23. This is above the average of 1863.

The importation of seed is equal to 357,145 bags, or 1,250,008 bushels.

There has been but little fluctuation in prices of seed—the highest being $4.50 and lowest $3.48; a higher price than it has reached in the last ten years.

The high sales of gold enhanced the value of foreign seed, consequently a higher range of prices, and the Atlantic market brought in large shipments of both seed and oil. The consumption through the country has been light, much less than in 1863. Seed has ruled high, and the fibre has ruled beyond all precedent in price and demand.

The crop of flax gathered in the West in 1863 was the largest ever before known. In Illinois and parts of Indiana the crop was large, and reputed of good quality. Ohio was not equal to the other States. Shipments were large to the Eastern markets during the entire season, and when the new crop matured, the stock of old seed still in the hands of dealers in the West was larger and is still so.

As a general thing the crop at the West has matured well. The great demand for flax, for the last two years, offered great inducements to farmers. There was an active demand for the fibre, and good demand for the seed at high prices.

Farmers sowed largely last spring, though the weather was not as favorable as could be desired for it. But little seed was borrowed from the crushers, by the farmers, as has been the custom heretofore, they preferring an independent position in the sale of the seed. Amount probably loaned to farmers in the entire West was some 80,000 bushels. The yield this year was about seven bushels to the bushel sown. In some sections the fibre was very light. The average yield of a ton of flax is about 350 lbs. of fibre.

The yield of lint in 1862 in quantity and quality was the best grown for the last twenty years.

The consumption of oil, generally at the West and through the entire country, has been light; the ruling high rates of gold through the year, and high prices of seed and oil at the East, caused large shipments.

Taking 1862 as a basis, we thus estimate the linseed and oil production of the country:

	1862.	1863.	1864.
On hand, imports and crops,	1,369,575 bush.	1,785,568 bush.	1,896,576 bush.
Consumed,	1,202,858 "	1,366,024 "	1,112,051 "
On hand,	166,716 "	419,544 "	784,525 "
Total value for the year,	$2,883,921	$5,205,058	$6,959,996
Value of consumption reduced to oil,	2,105,717 galls.	2,732,048 galls.	2,224,102 galls.
Value,	$2,225,829	$3,301,648	$3,458,348

WHALE FISHERIES.

The Whaling Fisheries of 1864 show a further decline in vessels and tonnage, the smallest number registered in twenty-five years, and the greatest prices known. There are several reasons why the fleet was not more successful. The new fields for Arctic whaling, the success of 1863, and the exhaustion of the sperm fisheries on the Pacific coast, induced many then engaged in the sperm fishery to try the Northern. The success of the Arctic fleet in 1863 caused the sending out of a number of ships, and the new fields for Arctic whaling offered great inducements, but boisterous weather and new ground checked whaling and added greatly to the ill success of the fleet.

The Ochotsh fleet consisted of six American and four foreign vessels. The American aggregate catch being 6,050 bbls. oil and 87,000 lbs. bone, or an average of 1,008 bbls. oil and 14,633 lbs. bone each, the whole catch being (ten ships) 9,725 bbls. whale oil and 136,800 lbs. bone. Although oil and bone have commanded high prices, yet the Northern fleet has not been encouraging. The high price and enormous expense of everything connected with whaling voyages is more than equal to the commanding high rates of oil and bone. There has been an abundance of whales, but the season generally has been very unfavorable for their capture, both in the South Pacific and Atlantic.

The Northern fleet consisted of sixty-eight ships, average of 522 bbls.—35,490 bbls.; compared with 1863, forty-two ships, average of 857 bbls.—36,010 bbls. This is less than any year except 1860, when there was one hundred and twenty-one ships and averaged only 518 bbls.

In 1863 there was some 22,319 tonnage less than in 1862, and seventy vessels less employed, while the imports are 28,000 bbls. less oil than in 1862, and 1862 was deficient some 46,530 bbls. as compared with 1861. 1864 is 14,361 tonnage less than 1863, and three hundred and four vessels less employed, while the imports are 136,235 bbls., or only 206 bbls. less than 1863; and although we have had three hundred and four vessels less, we are only 206 bbls. behind 1863.

There were some twenty-six more ships employed in the Northern fisheries than in 1863, but the average was only 522 bbls.—35,490 bbls.—being less than in 1862 or 1861.

In 1864 there were three hundred and four vessels employed in the whaling fisheries with a tonnage of 88,785, against three hundred and fifty-three vessels and 103,146 tonnage in 1863. 1864 comes in with a tonnage of only 79,690 and two hundred and seventy-six vessels, or 9,095 tonnage and twenty-eight vessels less than 1863.

The imports of oil in 1864 were 136,235 bbls. and 760,450 lbs. of bone, being 8,206 bbls. more than 1863, and 271,700 lbs. bone. This is nearly equal to 1862, with a tonnage of 125,465, while 1863 was less than any year during the last twenty years.

The exports of oil in 1864 were 57,000 bbls. oil and 530,000 lbs. bone, being 27,337 bbls. oil and 250,606 lbs. bone more than in 1863, and 39,559 bbls. and 474,981 lbs. bone less than 1862. 1864 exceeds 1863, and is less than 1862; while 1863 is less than 1862, and 1862 exceeds 1861.

The excess of exports in 1861 and 1862 was equal to 26,222 bbls., leaving a deficiency for 1863, of exports, 40,674 bbls., which would leave 1864, 13,337 bbls. deficient.

We present our Table of the Whaling Fisheries, with the amounts and values of each, including 1862:

	SPERM.		WHALE.		WHALEBONE.		TOTAL.	
	bbls.	Value.	bbls.	Value.	lbs.	Value.	bbls.oil.	Value.
Amount on hand, January 1, 1862,	16,132	$ 724,125 15	58,378	$ 1,091,084 82	295,600	$ 242,394 00	74,510	$ 2,057,601 97
Imported in 1862,	55,641	2,497,585 39	100,478	1,877,933 82	763,500	626,070 00	156,119	5,001,589 21
Total,	71,773	3,221,710 54	158,856	2,969,018 64	1,059,100	868,462 00	230,629	7,059,191 18
Exported in 1862,	27,976	1,255,772 70	68,583	1,261,816 27	.....	.....	96,550	2,537,588 97
Consumed in 1862,	57,759	1,246,032 11½	67,254	1,256,977 26	.....	.....	95,013	2,503,009 37½
On hand, December 31, 1862,	16,033	719,905 72½	23,019	430,228 51	.....	.....	39,057	1,150,130 83½
Total,	71,773	3,221,710 54	158,856	2,969,018 64	.....	.....	230,629	6,190,729 18
On hand, January 1, 1863. Value at average price,	16,033	813,367 17	23,019	690,656 32½	91,500	139,995 00	39,057	1,644,018 49½
Imported in 1863,	65,055	3,299,264 32½	62,974	1,889,456 15½	488,750	747,687 50	128,029	5,936,407 98
Total,	81,093	4,112,631 49½	85,993	2,580,112 48	580,250	887,682 50	167,086	7,580,426 47½
Exported in 1863,	18,366	931,431 69	11,297	338,952 35	279,394	427,472 82	29,663	1,697,856 86
Consumed in 1863,	31,527	1,598,891 80½	65,352	1,960,805 09	151,876	232,270 28	96,879	3,791,967 17½
On hand, January 1, 1864,	31,200	1,582,308 00	9,344	280,355 04	148,980	227,939 40	40,544	2,090,602 44
Total,	81,093	4,112,631 49½	85,993	2,580,112 48	580,250	887,682 50	167,086	7,580,426 47½
On hand, January 1, 1864,	31,200	1,749,384 00	9,344	376,750 08	148,980	268,164 00	40,544	2,394,298 08½
Imported in 1864,	64,373	3,609,338 04	71,863	2,897,516 16	760,450	1,368,810 00	136,235	7,875,664 20
Total,	95,572	5,358,722 04	81,207	3,274,266 24	909,430	1,636,974 00	176,779	10,269,962 28
Exported in 1864,	45,000	2,523,150 00	12,000	483,840 00	530,000	954,000 00	57,000	3,960,990 00
Consumed in 1864,	30,192	1,692,753 30	62,528	2,521,128 96	209,280	376,704 00	92,718	4,590,586 26
On hand, January 1, 1865,	20,382	1,142,818 74	6,679	269,297 28	170,150	306,270 00	27,061	1,718,386 02
Total,	95,572	5,358,722 04	81,207	3,274,266 24	909,430	1,636,974 00	176,779	10,269,962 28
On hand, January 1, 1865,	20,382	.....	6,679	.....	170,150	.....	.....	.....
To arrive in 1865,	12,508	.....	21,421	.....	222,200	.....	33,929	.....

	1863.	1864.
Average value of Imports,	$5,936,407 98	$7,875,664 20
" " Exports,	1,697,856 86	3,950,990 00
" " Consumption,	3,791,967 17½	4,590,586 26
" " On hand,	2,394,298 08	1,718,386 02

Total value of the fisheries for 1864: On hand, January 1, and imported, equal to $10,269,962.28, compared with 1863, $7,580,426.47½, and 1862, $6,190,729.18, in 1864, being $3,689,536.80½ *more* than 1863, while the number of vessels was forty-nine, and 14,359 tonnage *less* than 1863. Notwithstanding this, there is but little difference between the two years in imports and consumption of sperm and whale oil.

Comparative Value of the imports of Whale Fisheries, tonnage and number of vessels for the last six years:

Years.	Vessels.	Tonnage.	Value.
1859	624	195,115	$8,504,483 73
1860	569	176,842	6,551,172 84
1861	514	158,646	5,005,875 32
1862	423	125,465	5,001,580 21
1863	353	103,146	5,936,407 98
1864	304	88,785	7,875,664 20

Although 1864 was less in number of vessels and tonnage, yet its import value is greater than the five preceding years, and nearly equal to 1859, with double the number of vessels and tonnage, as shown above.

1865.

The Oil trade for the year 1865 has ruled remarkably firm, and sales were considerable in advance of 1864. The trade generally was satisfactory, and on a cash basis. The profits, however, were not as large as in previous years. Owing to the high prices of crude oils and stock, manufactured could not keep pace with the advance. Never before in the trade was Lard Oil known to rule as high as Sperm Oil.

Our foreign demand for Engine, Lard and Petroleum exceeded largely 1864, and the reputation of Buffalo oils stands second to no other the world over.

A large quantity of Natural or "Dark Oils" were thrown in the market, followed by a large and increased consumption, owing to the high price of other oils.

PETROLEUM.

The business of the year has been a successful one. The year closed on a declining market, and light stock. The direct exports of Petroleum from Buffalo to Europe equalled some 10,000 gallons Refined, 3,000 gallons Naptha, and 3,000 gallons Mineral Turpentine. Our trade with Canada has been large. In 1865, we numbered ten Refineries, at a cost of upwards of $150,000, with a capacity of 80 to 100,000 bbls. per year. The consumption of Crude Oil for 1865, equalled 42,520 bbls., and equals 1,700,800 gallons.

	Gallons.
Stock on hand Jan. 1, 1865,	208,514
Amount receipts Crude for 1865, against 1,148,160 gallons in 1864,	1,738,600
	1,947,114
Consumed (distilled,)	1,700,800
On hand January 1, 1866,	246,314

Equal to 6,157¾ barrels of 40 gallons each, most of which is in Refined Oil.

We estimate the value of the production of this city for 1865, Refined, Naptha, Gasoline, Paraffine, &c., at 34,016 barrels, at $952,820.97, against $384,080.58 in 1864.

	Free.
Average prices for the year 1865, Refined,	72 1/3
" " " " " " Naptha,	47 3/8

The Revenue tax paid, equalled $241,446.89, against $80,962.66 in 1864.

Western Virginia, Kentucky and Ohio will produce a large amount of prime oil in 1866, as well as Pennsylvania.

The exports of Petroleum from the United States was large, but not equal to 1864. We estimate the production of the wells at 9,000 barrels per day, and the products of the United States as follows:

On hand January 1, 1865,	32,958,191
Product of the Wells in 1865,	112,680,000
Total gallons for 1865,	145,638,191

The exports of the United States are set down at 29,805,523 gallons, including Crude and Refined; not as large as 1864, but exceeding in value by a million of dollars.

Taking the average prices at the sea board, and we estimate the amount and value, production, exports, consumed and on hand for the United States for 1865 as follows:

	Gallons.	In Crude.	Value.
Exports,	29,805,523	37,753,662	$19,292,877 20
Consumed,	41,970,866	58,759,252	32,684,811 87
On hand,	38,783,113	49,125,277	25,095,906 54
Total for the year,		145,638,191	77,073,605 71

As compared with previous years, shows the great value and developments.

Total Value for 1865,	$77,073,605 71
" " " 1864,	57,268,458 02
" " " 1863,	33,610,000 43
" " " 1862,	14,670,358 53

Producing in four years the value of $182,622,422.69.

Average prices at the seaboard for the last four years:

	1862.	1863.	1864.	1865.
Crude,	18	27 3/4	41.81	38 3/8
Refined, free,	33	52 1/2	74.61	77 7/8
Refined, in bond,	22	44	65.03	58 7/8
Naptha,	--	28.59	39.54	50 3/8

WHALE FISHERIES.

The Whaling Fisheries of 1865 has proved an eventful one. The great destruction of ships in the Arctic regions, by the Shenandoah, and the great loss, both private and public, and loss in the season's catch, is estimated at over two millions of dollars.

There has been a good demand through the year, and prices have ruled higher than for the last twenty-four years past.

The short space will not allow detail, and we state the import, export, consumption, on hand, value, briefly as follows:

	Imports, 1865.	Value.
Sperm,	33,242 bbls.	$2,356,026 75
Whale,	76,238 "	3,481,170 65
Whalebone,	201,100 lbs.	1,059,088 51
		$6,897,285 91

	Barrels.	Pounds.	Value.
Total Exports in 1865,	21,818	201,100	$1,848,399 75
Total Consumed in 1865,	81,773	395,200	5,564,706 25
On hand in 1865,	22,950	193,200	1,524,773 25
Total for the year 1865,			$8,937,879,25

Consumptive value of the *imports* of Whale Fisheries, tonnage and number of vessels for 1865:

	Vessels.	Tonnage.	Value.
1865,	276	79,690	$6,897,085 91
To which is to be added the amount on hand Jan. 1, 1865,			$2,040,593 54
Total, same as above,			$8,937,879 25

LUBRICATING ROCK OIL.

The Virginia Oil and Oil Land Company, in which many of our citizens are interested, are producing a most valuable quality of heavy Rock Oil, which it is confidently believed, would in the course of time, supersede for all lubricating purposes, Sperm and other animal oils.

The region where this oil is found is quite limited, and lays to the east of Parkersburgh, in West Virginia. The local theory is that at some period of time a mighty pressure from below, pushed up from great depths a portion of the face of the earth, one or two miles in width, and several miles in length, breaking up and rupturing the rocky strata, and leav all around the boundaries of this upheaval, the plainly defined evidences of the *tear* or *rent*, in the earthy crust, as is shown by the upturned strata. What became of the debris which was pushed up from below, is a matter of conjecture; perhaps it was swept away by some flood! At all events it is not there. The upper strata which is found within this break, has to be sought for outside of it, at great depths. Within the break is found this heavy oil. Outside of it, light oil is found, and in deeper wells.

This oil is subjected to a very simple process of purification, without the agency of any acids, which frees it from deleterious foreign substances, leaving it pure. It has been used on locomotives and other railroad machinery for a considerable time, and thoroughly tested. The Baltimore & Ohio and the Michigan Central Railroads, among others, we are told, now use it and pronounce it a fine lubricator, very economical, and very enduring.

The consumption of Lubricating Oil in our city is very great, and we deem it a duty to call attention to this new source of supply.

If this oil is all it is claimed to be, there is no reason why millions of dollars will not be saved to the country by its use annually.

This article is largely exported, and is receiving considerable favor in Europe.

THE IRON TRADE OF BUFFALO.

In writing up the Iron History of Buffalo, we are aware of the magnitude of the undertaking, if justice is done to the subject. The Iron interest embraces all the mechanic arts, and is inseparably connected with the happiness of man, and the progress of civilization on the earth. Doctor Ure, of England, in speaking of Iron, says: "Every person knows the manifold uses of this truly precious metal. It is capable of being cast in moulds of any form; of being drawn out in wires of any desired strength or fineness; of being extended into plates or sheets; of being bent in every direction; of being sharpened, hardened and softened at pleasure." Of all the metals it is the one most in use, and contributes, perhaps, more to the comforts of the race than any other one article dispensed by a kind Providence.

When we take into consideration that it is scarcely twenty-five years since any great improvements have been made in the process of smelting iron ore, and the fact that, until recently, Iron has been used in limited quantities, compared to its now general introduction into every branch of art and manufactures, we stand amazed at the wonderful changes it is making in human economy.

It is scarcely thirty years since a gentleman of this city urged upon the manufacturers of Iron here, the importance of introducing it into general use as supporters for buildings, and for other purposes in the building line. He was laughed at, at the time, and fairly ridiculed for attempting such a dangerous innovation, as it would be to use cast iron pillars for fronts to stores. A person would be classed among the old fogies who would attempt now to build a decent store without using iron piers, iron caps, &c., &c. This gentleman has lived long enough to enjoy the satisfaction of seeing in the city of his abode scarcely a store that is not supported by iron pillars, and many more whose fronts are decorated with elaborate iron embellishments.

We have seen in our own city what has been done in the Iron trade for the last twenty-five years; not anything compared to what might have been done, perhaps, if our citizens and capitalists had turned their attention more to manufacturing enterprises. For the most part, until within a few years, much of our capital has been absorbed in commerce. Observing minds have been constantly urging for ten or fifteen years the necessity of fostering and encouraging manufactures in our city.

Iron has been the subject more talked about and dwelt upon than any other branch of industry. Shrewd men have seen that, of all places in the Lake Basin, Buffalo was the one by nature best calculated to succeed and make profitable, investments in the manufacture of Iron. Lying as she does, at the foot of the great chain of lakes, some of whose borders have hardly felt the foot tread of civilization, States whose millions of acres of land, rich in precious ores, as yet untouched by the enterprising hand of American genius; whose boundaries are washed by these inland seas, navigable by ships as large as those that do the carrying trade on many an ocean; possessing the facilities of a canal navigation as large and as long as many rivers, with chains of railroads from every section, centering in her very heart; inexhaustible coal beds of the best quality of bituminous and anthracite in close proximity, waiting only the progress of events to

yield their treasures to the hand of interested capital. With such advantages, such natural qualifications, Buffalo could not help becoming a thriving manufacturing city of immense magnitude.

Long ago it was confidently predicted that the time would come when capitalists would see that it would be cheaper to carry the rich ores of Lake Superior to the fuel than the fuel to the ores. Here, we now have cheap fuel to meet the Western ore, and not many years will roll round when we shall see dotted all around our beautiful city tall stacks outgushing with the flame and smoke from furnaces of molten iron. With all these natural and artificial advantages we begin to see the germ of a business which will increase and thrive in the coming years.

It is encouraging to know that even now we have one of the largest rolling mills in the United States, numerous large machine shops where the best and most approved engines are constructed, as well as fire engines, locomotives, &c., &c., to say nothing of the hundreds of establishments working and forging iron into innumerable shapes and forms. The citizens of Buffalo have cause to be proud of the onward and increasing march of business in this class of manufacture. A friend, who has watched the tide of events very closely for many years, looking ahead not far into the future, favors us with a picture full of interest to the citizens of Buffalo, as well as to those who would come here and invest capital profitably in manufacturing enterprises. He says:

"The importance to this city of the opening of the States of Minnesota, Dacotah and Northwest Wisconsin to us by the railroads now in progress through Central Minnesota to Lake Superior, where, very soon, breadstuffs to supply the world will be produced, ought to be spread before the public, magnifying as it will our position as the dispenser of food to hungry millions. The opening of the Northern Pacific Railroad to the waters of Lake Superior will give us a hold on the commerce of the Indies, a traffic which in all ages has given wealth and power to the people controlling it.

"A railroad leading from the Falls of St. Anthony to Du Luth, (so named after an old French explorer,) at the mouth of the St. Louis River, on Lake Superior, gives an outlet for the wheat producing regions of Minnesota, North Iowa, Northwest Wisconsin and Dakota, as also from the Saskatchawan country; and as that point is no farther from here than Chicago, it will make farm products as valuable to the producer there, as if raised in Southern Iowa, Illinois and lower Wisconsin.

"Du Luth, with which we are soon to have connections, is destined to become one of the largest inland cities in America. No city on our continent is possessed of so commanding a site; look at it—in the heart of the continent, at the eastern termination of the most northern of the Pacific Railroads, having in its vicinity rich gold mines, mines of iron in great hills, copper, and probably silver, surrounded by the best wheat growing soils in all our land, where thirty, forty and even forty-five bushels of the best of wheat is grown to the acre, on land ready for the plough.

"The river on which this city stands, gives, at its falls, some twenty miles above its mouth, a vast never failing water power. Near by forests of the best of pine exist. What elements of prosperity are found here!

"The North Pacific Railroad will be several hundred miles shorter than its central rival; it will cross the short degrees of longitude and terminate at Puget Sound on the Pacific, in the same degree of longitude on which San Francisco stands, and give the shortest navigation across the ocean to the East Indies, China and Japan. It will pass through a fertile region, crossing the rich mining territories of Montana and Idaho. This Northern Pacific Railroad is an agent which is to work a great revolution in the course of the trade of the world, and in our city one of the important points on its course.

"Before long we will have our canal and its locks enlarged so that canal steamers of six hundred tons can navigate it, making the passage to New York in five days, not fifteen as now; and giving the canal capacity, if urged to its utmost, of transporting twenty million tons to the East in a season, a capacity fully sufficient to meet the wants of trade for fifty years to come, and as a consequence of enlarging the boats and shortening the length of the trips, cheapening the cost of transportation, so that no rival route can enter into competition with it.

"Our Iron manufacture is established on a firm basis. At no other point west of the Alleghany or at any other on the Lake Basin can anthracite coal be used for smelting iron economically. Iron made by the agency of that fuel is next in excellence to charcoal iron, and is worth fully five dollars more per ton than iron made from bituminous coal.

"It may not be known that no Pig iron was made in Pittsburg till after the opening of the iron mines of Lake Superior, and that they now use that ore brought down the lake to Cleveland and then taken one hundred and thirty miles by railroad to that city, and that they cannot use their own neighboring coal for smelting, but have to send nearly fifty miles for it to McConnelsville. Previous to the discovery of iron on Lake Superior, the iron operations at Pittsburg were confined to working pig iron made elsewhere. Our prospects as an iron manufacturing center are far brighter than theirs were ten years ago.

"Soon we are to reach by more probably two, than one railroad, the vast deposits of bituminous coal known to exist to the south of us. It is a mere question of time. The distance is about one hundred miles. When that source of supply is reached, few places in the country will have a more abundant or cheaper supply of fuel than we will have. Then this city will become a busy scene of manufacturing industry.

"Much stress should be placed upon the fact that this is the healthiest place in the world. Our climate is cool, equable, not liable to the extremes of heat or cold—just the climate for a manufacturing center where the artisan can do the utmost amount of work with the least inconvenience to himself.

"A calculation of the ultimate capacity for carrying of our canal, when its locks are enlarged to the size of 27 feet width and 220 feet in length, permitting the passage of canal steamers 25 by 200 feet, carrying 600 tons of freight, gives something like the following results:

"One boat leaving each ten minutes of the day gives 144 boats per day, and each one carrying 600 tons gives 86,000 tons per day; and for the average of 230 days' navigation, 19,892,000—equal to 662,400,000 bushels of wheat carried one way. Tonnage to tide water, 1865, 1,307,507 tons.

"As it takes from six to eight minutes to effect a passage through a lock, it is easy to see how the capacity of the canal can be increased at any time, by adding to the number of side locks without materially altering its prism. Is not the Erie Canal capable of being made equal to any demands from the West for transportation?"

THE EARLY IRON MEN.

In the course of our investigations into the origin of the Iron business, in its various branches in our city, we are led to the conclusion that we are indebted to the late Samuel Wilkeson, more than to any other man, for its introduction here, and that influences indirectly shed upon it by his example and his knowledge of it, have, in the end, led to the firm establishment here of that most formidable of all human processes, Iron Smelting.

When Judge Wilkeson was quite a young man, we learn that he settled in the wilderness of Northeast Ohio, on the Mahoning river, near a newly established charcoal blast furnace. There he became familiar with the process of Iron smelting. In after years he came to live in Buffalo. Here we will mention this anecdote, as it has some bearing on the Iron business. After it had been determined to improve the mouth of our creek so as to make a harbor, in 1820, (a work of which the execution was undertaken by Judge Wilkeson,) it became necessary to provide a pile driver. Nowhere in all this country could such a casting be executed. The nearest point was at Tallmadge in Ohio, near Akron. One was made there, but when finished it was too late in the season to bring it down the lake, so an old mortar which had lost its trunnions, was improvised into a hammer, and with that implement every pile which was used in making our earliest piers was driven. This old relic now stands in front of Yaw's store on the corner of Main and Dayton streets, where it is used as a protection to the idewalk.

In 1828, Judge Wilkeson, in connection with Messrs. Beals & Mayhew, erected a foundry and machine shop, which was the earliest machinery making establishment built here; and in the same year he purchased the Arcole (charcoal) Blast Furnace, situated in Madison, Lake Co., Ohio, and associated in its ownership, with himself, his sons. These works were conducted successfully for more than twenty years, and were not relinquished until the timber in the vicinity was consumed. At this establishment stoves, potash kettles, hollow ware and pig iron were extensively made, most of which were brought down the lake and disposed of here, making this a considerable source of supply for an extensive region, East and West, for those commodities.

In 1842, in consequence of the substitution for the old fashioned heavy plate stoves, of thin and frail castings, and the almost entire cessation of any demand for hollow ware, so called, the Messrs. Wilkeson removed their foundry from their works in Ohio and commenced the making of the new kind of thin stoves in a large foundry on Court street, making after that time, only pig iron at the works in Ohio, which was brought here and re-melted.

In 1845, the Erie and Pittsburgh and the Ohio and Pennsylvania canals, which penetrated districts containing coal and iron ore, were opened. The sons of Judge Wilkeson determined to erect iron works near the junction of these canals in Poland, Ohio, and put to test the often and unsuccessfully tried experiment of smelting iron with raw bituminous coal.

Their works were completed the next year. They were perfectly successful, and they can claim the credit of having been the first in America who succeeded in smelting iron with raw bituminous coal. The productions of raw bituminous coal and coke furnaces, for the year 1864, was 201,108 tons.

In 1859–60, much interest was manifested by our citizens in the establishment of manufactures here. Various branches of industry were proposed. After a thorough canvassing of the subject, we became convinced that, of all other places on these waters, this was the most advantageous for smelting the newly discovered rich iron ores of Lake Superior, and that here, where anthracite coal is attainable at reasonable prices, a great and prosperous iron manufacture could be built up. Acting on these views we have in successful operation two great iron smelting establishments, which we have more fully described in the following pages, to be followed in the course of time by many similar works, bringing in their train a great variety of other manufactures.

Attempts may, and probably will, be made to rival our iron manufacturing, but when seasons of low prices occur, as is often the case in the trade, the great advantages of our position in respect to costs and qualities of materials will assert itself, and the business die out at points where it is *forced*, leaving to us a clear field with the supremacy in the iron business on the lakes forever.

FIRST FOUNDRIES.

The first furnace for melting Iron in Buffalo, was erected by Edward Root, in 1825, on the bank of what was then Little Buffalo Creek, on which Hubbell's Stove Works, now stand on Scott Street. Mr. Root employed about a dozen men, and confined his business to casting plough irons and small castings, as needed by the citizens in those days; his machinery was run and cupola blown by horse power.

Mr. Edward Root was the father of General Adrian R. Root, who, having served efficiently in the late war, returns with military honors to an active business life, and is occupying the position of secretary and treasurer in the Shepard Works of this city. About this time or shortly after, Mr. I. W. Skinner built a furnace on the spot occupied by Jewett & Root, where has grown up that immense establishment which is fully described in another part of this work. In 1827, Jonathan Mayhew and John W. Beals, united in the iron business under the firm of J. Mayhew & Co. The store occupied by them was on Main street, next to the old Steam Boat Hotel, on the corner of Main and Dayton streets. About a year after, Mr. S. Wilkeson joined them, and continued business in the name of Beals, Mayhew & Co. Stoves at this time were not cast here.

That kind of ware was made at the foundry of Mr. Wilkeson in Ohio, sent here to be finished and mounted, and from here shipped back again to be sold in the stores of the village where they were originally cast. In the spring of 1831, Mr. Mayhew formed a connection with Mr. Sheldon Thompson, in the same line of business, under the firm of Mayhew & Co. They built the stone warehouse on the dock, now occupied by G. S. Hazard & Co. This was the second brick or stone edifice erected on what was then called the flats, which embraced all the land lying below the Terrace. The business in the iron line had increased largely, and shipments of stoves, hollow ware, &c., were sent to Milwaukee, Chicago, and other western points.

In 1838, Mr. T. J. Dudley and Mr. S. S. Jewett, of the firm of Jewett & Root, entered the business of manufacturing stoves on the present site of the Jewett & Root Works, on the Clark and Skinner Canal, and were the first to introduce the manufacture of stoves in this city, which, in a short time, became a feature of the concern. This firm continued for three or four years, when they were succeeded by Jewett & Root, who have continued to the present time. The reader will find a description of their works further along.

Mr. Dudley was also connected for a time with Mr. Mayhew in the casting business. They built works on the Hamburgh Canal, exclusively for making stoves. In 1840, Mr. Dudley succeeded Mr. Mayhew, and continued at the same place until 1852 or 1853, when the works were removed to the corner of Swan and Jefferson streets, where they are now carried on by Messrs. G. B. Bull & Co.

FIRST STEAM ENGINE WORKS, &c.

The first complete engine built in Buffalo was constructed at the works of Wilkeson, Beals & Co., in the year 1829. This engine was built under the superintendence of Mr. John Hibbard, for the above named firm. Shortly after this period Mr. Hibbard went into business with Mr. Fairchild, and in 1831 and 1832 they rebuilt several engines, one of which was for the William Penn, one for the Ohio, then sailing the lakes, as well as several others. These gentlemen continued in business for a few years, but for want of capital were obliged to surrender to the pressure of hard times which came on about that time or a little after. Mr. Hibbard is now living in this city and keeps a small store on Carroll street. He is a veteran machinist, and has left his mark on the times in which he lives as an honest, industrious, warm hearted man. It may be that he has not amassed as much of this world's goods as some who have done less labor, still his memory will be as lasting and as green as if he had retired a millionare. In 1831, a beam engine of seven inch cylinder and three feet stroke, was completed in their works for the Detroit Water Works Company. The firm continued to manufacture engines and machinery for a time, when it passed into the hands of Eli Williamson & Co., afterwards to Williamson, Clark & Co., and from that it merged into the present Buffalo Steam Engine Works. The first engine put up in these works was manufactured by Williamson, Clark & Co., while the Buffalo Works were in process of construction, the fly wheel of which was taken from the engine of the old steamer Walk-in-the-Water, and is now attached to the engine made by the Buffalo Works, for a blast furnace in Tioga, Tioga Co., Pa.

About the year 1829, Gibson, Johnson & Ehle, started a machine shop and foundry at Black Rock, where they did quite a large businesss in the manufacture of steam engines. The first engine built by them was for the steamboat Pennsylvania, which was the first marine engine ever built in Buffalo. They also made engines for the steamers Niagara, Henry Clay, New York and General Porter. After doing business a year or two, they sold to Gibson, Grayson & Co., who finally succumbed to the hard times of 1832 and 1833. A large amount of patterns and castings were bought by the Buffalo Works, after the failure of Gibson, Grayson & Co.

In the year 1837, Eli Williamson, Robert Skilling and William Butterworth, three mechanics in moderate circumstances, inaugurated what is now the Buffalo Steam Engine Works. These three men commenced operations with the only capital they had,

which consisted of a knowledge of their business, and the few imperfect tools they had on hand. They leased what was then known as the Wilkeson Foundry, situate nearly opposite the present Buffalo Steam Engine Works. It was here they went to work under adverse circumstances, but full of determination and hope. They struggled along for a while, barely earning enough for their daily subsistence. Not long after this Mr. John Hibbard, before alluded to, Mr. Stephen C. Clark, since dead, and Mr. Samuel Graham, joined interest with them, and furnished sufficient capital to establish a permanent business for those days, for the repairing of engines, and the partial manufacture of others, most of which was for marine purposes. Having met with sufficient encouragement in their labors, they were induced in the year 1840, to apply to the Legislature of this State for a charter granting certain manufacturing privileges. Accordingly application was made, and in the winter of that year a charter was granted to Eli Williamson, Stephen C. Clark, and Robert Skilling. The capital stock of the company was $300,000, with a provision that when $50,000 was subscribed, and $25,000 paid in, the company were allowed to commence operations. The charter was perpetual, granting favorable privileges for manufacturing steam engines and machinery, and doing all manner of work in the iron line. Under this charter and agreeable to its requirements, the necessary stock was subscribed and paid in by the parties named in the grant. It is due to the memory of Mr. Clark to say that by his untiring industry and unflinching perseverance, the charter was obtained in the face of a formidable opposition and remonstrances from his fellow citizens at Buffalo.

It may not be out of place in this connection to relate a little incident which occurred in the early infancy of our struggling young corporation. Shortly after it got into a prosperous working condition, it was suggested that they might possibly need, in the course of their business transactions, some bank facilities, although at that very time the concern had in silver laid away in bags about $3,000. Notwithstanding this circumstance, Mr. Clark thought it would do no harm to establish mutual relations with some banking institution, of which there were but three or four at that time doing a banking business. Accordingly, one day he made a note of some five hundred dollars, which he got endorsed by two responsible friends, and with it he and Uncle John Hibbard started for the Bank. The first approach they made was on the Commercial Bank, then doing a successful business in this city. On applying for the accommodation they were told by the officer of the Bank that they could not do the paper, as their limit was up and they had no money on hand. This was a little unexpected to the applicants, but they accepted the reason very mildly, and left in hopes of meeting with better success elsewhere.

After making one or two applications with no better success, they finally entered the O. Lee & Co.'s banking office, where they were very cordially received by the shrewd President of that institution. Said they: "We have come in this morning to ask you to discount a note for us. We are using considerable money in our business, and we have made a note with good endorsers, which it would accommodate us if you would discount." "Can't do it, can't do it," replied the President. "I have no faith in your concern; you will fail and we will be obliged to collect it of the endorsers. Can't do it, can't do it."

By this time Mr. C. thought it became his duty to assert some rights he was entitled to as well as others who were having accommodations at this Bank, and straightening himself up in the dignity of his manhood, he said, holding out the note, "Mr. Lee, you will discount that note or one of us must prepare to take a whipping." The sagacious President looked at Clark for a moment and made up his mind that that note would be promptly paid. "Teller," said he, "give Mr. Clark the money on that note." "I don't want the money," said Mr. C. "What! you don't want the money, what do you want?" "I want," said he, "a bank-book and a check-book; we will check for the money as we need it." This was a little out of the fashion of doing business in those days, and it naturally attracted the attention of the President, as he supposed, if he discounted the note, the whole amount of the money would be immediately withdrawn from the bank. In two or three days after this occurrence, Mr. Clark collected the bags

of silver, put them on a cart and backed up in front of the O. Lee & Co.'s Bank. After unloading the treasure, he walked into the bank, where he met the worthy President, who very anxiously had been watching the operation of the last few moments. He asked Mr. C. what it meant. "Oh, nothing," said he; "we had this money which had been paid in by customers, and as we had no safe place to deposit it, and as we have succeeded in establishing relations with the Bank, I have come to deposit it with you." The President was not a little surprised, but was more so when on invitation he visited the works of the Company, saw the comprehensive nature of their business, and was shown over $10,000 of accounts against some of the best concerns in the West and in Canada. It is needless to say that ever thereafter the Buffalo Steam Engine Company could get what money they needed from the O. Lee & Co.'s Bank *without an endorser.*

In the year 1841, the Company bought a part of the land now occupied by them on the corner of Ohio and Washington streets, for the sum of $13,500, and erected the present workshops, foundry, &c. From time to time since, additional land has been purchased, and buildings erected to accommodate the increasing business, until they have assumed their present imposing proportions. The first of these works was completed and in operation in 1842; business increased rapidly from that time, and for many years it gave employment to from 150 to 300 men. The iron at this time was mainly procured from iron works in Pennsylvania, owned in part by this company. The bituminous coal came from a mine owned by them in Pennsylvania. The anthracite coal came by Erie Canal, purchased in Albany. The business at this time was mostly confined to the manufacture and repairing steam engines. It was the intention of the Company at a future time to remove to a point where they could have a water front and more room. Consequently, in 1850, they bought of the Central Rail Road the tract of land lying on Buffalo Creek, at what is now the junction of the creek and new channel, comprising a front of four hundred feet on the creek and across Ohio street three hundred feet, as also two hundred feet on Louisiana street, nearly adjoining. This property is now owned by Mr. G. W. Tifft, on which he is erecting a large elevator. During the prosperous days of the Company some of the Directors of the Albany City Bank were on a visit to the city, when they were invited by Oliver Lee to take a look at one of our large iron establishments. He, with the Directors, called at the works; there they found the President, Mr. Williamson, dressed in a swallow tailed coat with one skirt torn off, and he looking as black as the iron he was forging. On approaching him Mr. Lee wheeled him round in the presence of the invited friends, remarking: "You are a d—lish pretty looking President." The Directors went back, no doubt, feeling safe in discounting all the paper the Company would offer; at least they said they would after looking at the President. We may remark that at the time we are writing, say 1837, there was in this city but one piston engine in operation; this was in Case's tannery. During the administration of John Tyler, the Iron Revenue Cutters Dallas and Abert were built at West Point, the engines of which were made by the Buffalo Works. This establishment also built the first trip hammer ever made in Buffalo. The first large shaft for a steamboat cast by Williamson & Co., was for the "Constitution." She had broken her shaft in 1839. To show how poor the facilities were in those days for casting large pieces, we may remark that they commenced at twelve o'clock drawing off the iron, and at six at night in hoisting up the ladle the rope broke; the ladle fell some five feet without spilling the iron, after which a new rope was procured and a good shaft cast without remelting the iron. This shaft weighed about five tons. We have gone somewhat into detail in regard to the Buffalo Works, which may be pardonable on the ground of its being the pioneer in that line in our city; we have noticed how its early founders struggled against every vicissitude, and how, after years of hard toil and amid embarrassments of the most crushing character, it has lived and flourished; an example of what determined will, economical exactness and persevering effort can accomplish. Within the past few years the Buffalo Works have changed hands. New proprietors have come in, and the Works are now principally owned by G. W. Tifft, Esq., one of the most enterprising citizens of Buffalo, who is prosecuting the business with great vigor.

EARLY IRON WORKS.

The Shepard Iron Works, located on Ohio street, were erected in 1847, and consist of a brick foundry and machine shop, one hundred and twenty feet square, and a boiler shop adjoining, one hundred feet square, which, since that time, have been very much enlarged and various improvements added. In 1850, Mr. John D. Shepard built the machinery for the propeller "Buffalo," one of the largest class propellers on the Lakes at that time, and attached a screw propeller wheel sixteen feet in diameter, the shaft just touching the water when the wheel was loaded to ten feet. Although a failure was confidently and generally predicted, the experiment was entirely successful, and the reputation of the elevated screw propeller wheel fully established. There were also built at these works some of the best steam engines on the Lakes, and the boilers of some of the largest passenger boats; as for instance the "Southern Michigan," Northern Indiana," "Crescent City," "Queen of the West," "St. Lawrence," and others. There have also been manufactured at this establishment for the city of Buffalo since the year 1859, six Steam Fire Engines, which have given the utmost satisfaction in extinguishing fires. They also manufacture in large quantities propeller wheels, of which they have made over six hundred in the last fifteen years. A supply is kept on hand at all times to fill orders. The engines, twenty-two in number, for the Rolling Mill and Blast Furnaces of the "Union Iron Works" of this city, were constructed at this establishment.

We saw here a part of the cylinder of the old steamboat "Walk-in-the-Water," which was afterwards lengthened out and used in the old "Superior," and is now turned into a blower, to blow the cupola. They have at present in process of construction an engine for the "Star and Crescent" Flouring Mill of Chicago, which will cost $18,000. It is said this mill is to be the most complete in all its parts of any flouring mill in the United States. The proprietors, Thayer Brothers, sent an agent to all the large machine shops in the country to examine engines and machinery, style of work, &c. He awarded to the Shepard Iron Works the credit of turning out the best specimens of engines he had seen,—a compliment not only to the Shepard Iron Works, but to the city of Buffalo.

DAVID BELL'S WORKS.

Prominent among the names who have given reputation and fame to Buffalo in their respective mechanical callings, stands that of David Bell. In 1845 he came to this city with little capital, but with a good knowledge of his business as a machinist. He erected a small shed on a part of the land where now stand his imposing workshops, furnace, boiler works, locomotive buildings, offices, &c., &c., situated on Evans, Norton and Water streets. The present works were built up in the rapid space of about ninety days, as the buildings, at first occupied by him, were burned down on the 18th of September, 1862, and on the 1st day of February, 1863, every department of his extended business was again in successful operation. Mr. B. is one of those enterprising, liberal-minded men who stops at no obstacles, nor allows any impediments to stand in his path, while carrying out a comprehensive scheme. To him must be awarded the credit of inaugurating steam on the Erie Canal. He was the largest owner, at the time, of the fleet of steam canal boats that brought the delegation consisting of Gov. King and party to this city, on the occasion of the celebration of the introduction of steam on the canal. That memorable event must be fresh in the minds of our citizens, as it will be remembered that on the evening of that day the city was brilliantly illuminated, in commemoration of the supposed successful laying of the Atlantic cable, as well as in honor of the gentlemen who had come to our city to celebrate the triumph of navigating the canal by steam. In 1862, E. T. Evans, Esq., made a contract with Mr. Bell to complete for him an Iron propeller. In the early part of the year he laid down the keel of the first iron steamer ever constructed west of New York. She is 200 feet long, 29 feet beam, depth of hold 18 feet 6 inches. The engine is a single direct action condensing engine, with cylinder 40 inches bore and 36 inches stroke, the pro-

peller shaft being 31 feet in length. Her tonnage is nearly 850 tons actual capacity. The plate iron was rolled at the iron mills of Messrs. Pratt & Co., and with the exception of the angle bars and bulb beams, which were forged in Philadelphia, the entire work is of Buffalo manufacture; everything having been prepared at the foundry and shops of Mr. Bell.

The "Merchant," that being her name, is the first iron craft for the Lakes ever built west of New York. She has given the utmost satisfaction, and has proved a success from the day she was launched to the present time, having cost but a trifling sum for repairs since she commenced service, thus demonstrating fully that iron vessels can be made here as cheaply and as substantially as at any point in the United States. The success of the "Merchant" will no doubt inspire other enterprising capitalists to use iron as a matter of economy and safety, in ship building, hereafter. It has been the good fortune of this enterprising gentleman to have introduced, in the line of his business, many important projects that have proved not only successful to himself but valuable to the interests of our city. His last and boldest effort was the attempt, in the face of formidable rivals, rich and powerful companies having world-wide reputations, to demonstrate the somewhat doubtful experiment of manufacturing Locomotive Engines for Rail Roads at this point. Nowise daunted, he stepped into the hazardous work, and the result has proved that Buffalo genius, skill and capital, can turn out as good Locomotive engines as can be made in the world. Mr. Bell may well be proud of this, his crowning victory. Without consuming too much space, we will briefly say that in May, 1865, he completed the first Locomotive Engine for Rail Roads ever built in Buffalo; that having finished it, it was purchased by the Erie & Pittsburgh Rail Road Company. At a trial of this magnificent structure, quite a party of wealthy gentlemen, engineers and citizens were invited to ride after this engine, from here to Dunkirk and back. The event was celebrated by a substantial collation, provided by Mr. Bell at Dunkirk, where speeches were made and toasts given in honor of the success of our townsman. To show the party that the "David Bell," as that was the name given to it by the Superintendent of the Road, was some in a race, the engineer "tightened the rein" on it a little, on the trip down, when it made the last ten miles in thirteen minutes with all possible ease. The "David Bell" and another engine were completed about the same time, both of which were purchased by the same road.

There are now on the stands, in the foundry of Mr. Bell, three more large class engines for the New York Central Rail Road. We may say that this branch of mechanical art has become a success in our city, and that hereafter it will assume a very prominent position among our manufactures, and, as we trust, a profitable investment for the gentleman who has so courageously grappled with the undertaking.

Since writing the foregoing for our first edition, we learn that Mr. Bell has made a contract to build a steam boat for New York parties after the plan of Mr. Germain's patent, which is to be finished some time during the present summer. It is believed this will test the question of speed to be obtained by a boat built on his plan, although the new steamer will not represent the principle involved in the original theory to the extent the inventor might wish. If it succeeds, as we have no doubt it will, steam passenger boats may again make their appearance on our lake waters in competition with rail road travel.

THE VULCAN FOUNDRY AND IRON WORKS,

Occupy a space of land bounded on Water, Le Couteulx and Fly streets, being 100 feet on Water and about 200 on Le Couteulx street, where are erected foundry rooms, machine shops, offices, and all the necessary conveniences for carrying on a large business. The Vulcan Works were originally started, about twenty years ago, by Delaney & Wright, we believe, in a very humble way, on a part of the ground above described. The works, after a time, passed into the hands of Barton & Griffin, and in 1854 Mr. E. Weston, the present agent, became one of its proprietors, and has remained so to the present time. Under his practical management the works have been built up, and enlarged from time

to time, success having attended them almost from that time to the present. The Vulcan Works are entitled to the credit of having furnished the engines and machinery for the propellers Arctic, Atlantic and Pacific, in the Cleveland line, which are said to be the fastest vessels of the kind on the lakes, or we may say, on the ocean. At this establishment are manufactured mining pumps and machinery for mining purposes. We also saw, in course of construction, four locomotive engines for a coal road in Ohio, which are to cost eight thousand dollars each. When these are completed and in operation, we have no doubt many more will be ordered for the same purpose. Thus, we see, two machine shops in our city, are now manufacturing locomotive engines. It is gratifying to state that this establishment, as well as all others that we visited, have enough work on hand to keep them busy till spring. These works employ, ordinarily, about one hundred hands. Much of the pig iron used in this establishment comes from abroad, as they say they are unable to get their supplies here.

CHICAGO STREET IRON WORKS.

About the year 1846, Mr. Samual Swartz & Brother had a small shop, opposite Jewett & Root's, on Elk street, where they carried on a successful business in manufacturing and repairing machinery. In a few years after Mr. Swartz, in company with Messrs. Sprague & Martin, erected large and convenient works on Chicago street, near Ohio, which were carried on a few years, when the concern dissolved. Latterly, the establishment was taken in hand by Greenleaf, Nagle & Weed, and still later by Messrs. Nagle & Weed, who now employ about fifty hands, and are doing a large business in the manufacture of high and low pressure steam engines, balance valves, patent steam piston packing, mill gearing of all kinds, tannery machinery, &c., &c. They are turning their attention particularly to the manufacture of Greenleaf's Patent Balance Valve, of which they own the patent. It is claimed that this is one of the most important inventions connected with the steam engine, and that it is being introduced into the largest workshops in the towns where steam power is used. The character of this valve is better described in the body of this work, than we can do it in a cursory glance; we refer the reader's attention to the description on another page. We were shown a letter from a firm in Worcester, Mass., who had seen an engine somewhere with this improvement, and they had written to this city to find who manufactured them, and what the price was, &c. We were told that several stationary steam engines, from this establishment, had been sent to Springfield, Mo. So we see Buffalo enterprise pushing its work into Massachusetts in the East, and Missouri in the South. A noticeable fact connected with the manufacturing interests in Buffalo is, that the business seems to be mostly in the hands of young men who are full of energy, ambition and enterprise.

THE GLOBE FOUNDRY,

Situated near by the last mentioned works, and on part of the land once occupied by Swartz, Sprague & Martin, is of quite recent origin, having been started about three years ago by Messrs. Drullard & Co. Mr. F. O. Drullard is the son of Solomon Drullard, Esq., long known to our business men on the creek as one of the early firms engaged in the carrying trade on the lakes and canal. The concern already employs about forty hands in the manufacture of the various articles in their line. They melt about four tons of iron daily, and contemplate in the spring enlarging their works, when they will melt double the amount. For some of the work they do, they are pressed with large orders ahead, which they are unable to fill; this is particularly the case with the Hendershot Rail Road Chair, of which, we believe, they are the sole manufacturers. This Chair is an important invention, and all the roads are adopting them. They also manufacture Rocking Grates for locomotives, steam hammers, gas and water pipe, engine and bridge castings, &c., &c. For a new concern they are already doing a large business, which will be materially increased as they increase their facilities. The iron used in this foundry is made at the Union Iron Works.

THE EAGLE IRON WORKS

Are located on the corner of Perry and Mississippi streets. They were erected in 1853, and commenced operation in 1856. The present Superintendent of the Works, R. Dunbar, Esq., has been connected with them from the commencement. He is an efficient and capable man, and every way competent to conduct the extended business operations that come under his eye. This establishment is largely engaged in the manufacture of architectural work, as many of our first-class stores on Main street will testify. Specimens of their work are not only seen in our own city, but many fronts to stores and other architectural designs beautify the stores and dwellings of western cities. We believe they do more in this line of work than any foundry in the city. They also furnish the machinery and gearing for elevators, most of which have been furnished by this establishment to those now in operation in our city. Engines, both stationary and portable, as well as all kinds of mill gearing and heavy machinery work generally, is furnished at these works. They have, on the average, about one hundred hands constantly employed in the manufacture of the various articles in their line. The iron used is principally made at the Union Iron Works in this city.

In a smaller way, there are Sutton Bros., on Liberty street, who have been in business nine years, in the manufacture of Engines, Tool Machinery, Turning Lathes, &c. They give employment to twenty men and are turning out large quantities of work in the course of the year. Also the Globe Brass Foundry of Reister & Co., 3 and 5 State street, manufacture Portable Engines and do all manner of Brass and Iron machinery work. They keep from fifteen to twenty men the year round.

BOILER MAKING.

In the winter of 1829, Mr. John Hibbard, then in the employ of Wilkeson, Beals & Co., constructed the first boiler made in Buffalo. The iron came in sheets from New York, imported from England. So imperfect were the facilities in those days in the machinery for punching the plates, that one had to be contrived; this was done by forging a heavy piece of iron in the shape of an U, through which the sheet passed to guide the punch, then with a large sledge the punch was forced through the iron plates for the rivets. The plates were curved by hollowing out a log and bending them to the curve of the log. In this primitive manner the first boiler was made in Buffalo. This boiler was used in their establishment; it was two feet in diameter and twenty feet long, with cast iron head. It took four men fourteen days to build it. We are told that with perfected machinery one can be built now, of the same demensions, in about as many hours.

FIRST BOILER ESTABLISHMENT.

Mr. John Newman came to this city in the year 1833, and established the first Boiler Factory on the chain of the Lakes. He located in the first instance at the foot of Ohio street, and afterwards erected a building at the foot of Dayton street, where he carried on the business for a time, and moved his works near where the freight depot of the New York & Erie Rail Road now stands, and remained there till 1861, when he sold his real estate to the New York & Erie Rail Road Company, and retired from business. He was also interested in an establishment at Cleveland, where he built the Steamboat "Cleveland's" boiler. For a short time he occupied the Wilkeson shop and furnace, where he made several small engines and did some repairing. For a long time he manufactured nearly all the boilers that were made here, as well as those furnished to other parts of the adjoining country and the West, Mr. Newman's success was the result of years of patient toil, intermixed with vicissitude and embarrasment, at times, which he bore with manly fortitude. As honest a man as ever the light shown upon, he retires from the pressing cares of active business life, we are happy to say, with enough of this world's goods to satisfy his unostentatious nature, enjoying the respect of every man who ever knew him.

DEVENPORT & NELSON'S BOILER WORKS.

Messrs. Devenport & Nelson, on Le Couteulx and Evans streets, have a large establishment devoted entirely to the business of boiler making. They have occupied these premises for eight years, and are turning out a capital article in their line. During the year 1865 their sales amounted to about $100,000. The iron plates come mostly from Pennsylvania, from Lake Superior ore; the rivets are made at Corning's establishment in Albany, and are driven by a machine in this factory, which is the only one in this section of the country. They employ on an average forty-five men.

THE PHŒNIX BOILER WORKS,

On Indiana street near Ohio street, were originally started by W. A. Hutchings, formerly foreman in the Shepard Works. He purchased the establishment from Adam Good, who had already started the boiler making business. The works are carried on now by Messrs. Ashton & Kokersperger. They employ from thirty to forty men. The iron is made in Pennsylvania, and much of the work is sent West. The estimated amount of work done in the establishment is in the neighborhood of $100,000 annually.

On the same street, Phil. Riter, (who was formerly foreman in the Buffalo Works for sixteen years,) about eight years ago started a little shop of his own, and is now carrying on a large business; he keeps on an avarage forty men employed. The work is principally for Buffalo, much of which is for the Central Railroad, in the way of new boilers and repairing others. The iron is brought from Ohio and Pennsylvania.

The above enumerated works are aside from the large machine shops where the making of boilers constitute a portion of their business. In almost all the shops we visited, the complaint was made that it was a great pity that plate iron could not be made here instead of sending our money abroad for iron that actually passes our door to be manufactured into boiler plates, and sent back here. We have not estimated the quantity of boiler iron consumed in Buffalo, but it will at once appear to any one who will look among our shops, as immense.

BLAST FURNACES AND IRON ROLLING MILLS.

The first Rolling Mill erected in Buffalo, was that known as the Buffalo Iron and Nail Works, built in 1846, by Corns & Co. In 1861 Messrs. Pratt & Co. purchased the establishment, and have carried on the business up to the present time. The main mill is one hundred and seventy-six feet long by one hundred and forty feet wide, with nail factory attached, and has eight puddling furnaces, six heating furnaces, and about fifty nail machines. Besides this main building there are blacksmith, millwright and other shops. The works will compare favorably with the best of similar concerns in the country, and are now turning out large quantities of iron and nails of the best quality.

In the spring of 1860, much interest was manifested by our citizens on the subject of manufacturing. The result of several meetings held, was a determination on the part of several gentlemen of capital to erect a blast furnace in this city. Messrs. Palmer & Wadsworth and Messrs. Thompson & Warren, during that year built their blast furnaces. In 1862 the two concerns were consolidated, another furnace built, as also a very large and complete rolling mill.

These works are situated on the Buffalo Creek, at what is known as Farmer's Point. The real estate consists of fifty-three acres of land, on which are erected three Blast Furnaces, Rolling Mills, Machine Shops, and eighty-four tenement houses for the occupancy of workmen. The property has a wharfage front of over three thousand feet.

The Blast Furnaces are each fifty feet high, one with a diameter of bosh of sixteen feet, the other two of fourteen feet. The blast is made by three vertical engines, one

of three hundred and the other two of two hundred and fifty horse power; the steam to drive which, is created by collecting the gas above and bringing it down to a nest of boilers, under which it burns, thus furnishing the power without a dollar's expense for the fuel. The blast is heated in the same manner. These three furnaces have a capacity to produce 25,000 tons of pig iron in a year, requiring about 50,000 tons of anthracite coal, 45,000 tons of ore, and 13,000 tons of lime stone in its production. Its character as a Foundry Iron, stands deservedly high.

The coal used in the Blast Furnaces for the production of pig iron is the Anthracite of Eastern Pennsylvania, the Pittston, the Scranton, and the Lehigh. The ores are from Lake Superior, from Lake Champlain, from Oneida County, near Utica, from Ohio, and from Canada. Situated as these works are, where the canal and the lakes meet, the proprietors are enabled to combine the ores of the country more satisfactorily for the production of iron, than can be done at any other point on the chain of lakes. They have, also, the additional advantage of securing the anthracite coal by canal or rail, directly at their works without transhipment. They are thus enabled to produce iron of better quality than can be made elsewhere, where bituminous coals are employed.

The Rolling Mill is a mammoth building, covering over two acres of land, and is, with one exception, the largest mill in this country. Its propelling power consists of nineteen steam engines, varying from three hundred down to five horse power. Instead of using long lines of shafting and miles of belting, the power is applied direct from the engine, which is placed where the power is wanted. There is economy, both of power and in the wear and tear of machinery, in this arrangement. All these engines are supplied with steam which is generated in boilers placed above the puddling and heating furnaces, so that no fuel is required for producing the motive power.

The Rolling Department consists of five trains, two of which are twenty-one inches in diameter; one nineteen inches, one twelve inches and one eight inches. The three first trains mentioned, are driven by low pressure or condensing engines, each of three hundred horse power; the twelve inch train by a high pressure engine of one hundred horse power, and the eight inch train by a high pressure engine of sixty horse power—all vertical engines. These engines, and all those in the Mill and Blast Furnaces, were manufactured by the Shepard Iron Works, and are magnificent specimens of workmanship.

One of the twenty-one inch trains is used for rolling rails, and the other for reworking iron, for making large merchant iron—flat, round and square—and for rolling beams and girders and other forms of iron requiring large trains of rollers and great power. The capacity of the train employed upon this description of work is greater than that of any other train in the country devoted to similar use.

The nineteen inch train is used for rolling muck or puddle bar, scrap iron, &c. The twelve and eight inch trains produce the smaller sizes of merchant iron in the usual forms.

The Wrought Iron made at this mill is equal both in quality and finish, to that made at any other establishment, whether it consists of rails, bar iron or beams; as the proprietors manufacturing their own pig iron, are enabled to prepare their iron of the proper quality needed for the different purposes to which it is applied. On their large train, devoted to bar iron, beams, &c., they frequently roll masses weighing over one ton in weight, and yet from the perfect arrangement of machinery, the workmen are enabled to handle such masses with almost the same facility as if it were a nail rod. The proprietors give particular attention to the manufacture of beams and girders, such as are used in the construction of fire proof buildings, bridges and roofs; making them from fifteen inches in depth, and weighing two hundred pounds per yard, down to six inches in depth, weighing forty pounds per yard. Of their beams, they are now prepared to furnish eight different sizes, and will add new sizes from time to time as the demand may warrant.

The Rolling Mill has the capacity to make thirty thousand tons of iron, of the different forms, in a year. The business now done is largely re-rolling rails for the different roads terminating in Buffalo, and filling orders for new rails for roads in the West.

The coal required to run the mill full, is about fifty thousand tons per annum; it is of the bituminous variety, and from the mines at Blossburg, or from below Erie.

The Works are built throughout in the most substantial manner, the walls of brick or stone, the roofs of slate and iron, and are as nearly fire proof as they can be made, using any wood in their construction. The machinery and all the appointments of the establishment, are of the most perfect kind. When running full, the Union Iron Works give employment to 1,000 men.

In the spring of 1864, Messrs. Pratt & Co. "blew in" their Fletcher Furnace, situate in North Buffalo, on the Niagara River and Canal. The most remarkable success has attended this furnace. Up to the present time, there has not been a cessation of operations for a single hour since it was first "blown in," nor any accident to its machinery or apparatus has happened involving an expense of ten cents. It is probably the most complete furnace in the world. These enterprising gentlemen, we understand, contemplate the erection of still another furnace during the coming year, which will give us, with those erected and about being built by the Union Iron Works, six blast furnaces of the most formidable description. The location of this furnace is most favorable for large and extensive iron manufacturing. They have twelve acres of land, with an extended river and canal front. A canal basin at right angles to the canal, three hundred feet long by sixty feet wide and seven feet deep, has been excavated, which is connected by a slip with the Erie Canal. On the Niagara River, two hundred feet of substantial dock has been built, alongside of which is twelve feet of water. At this point the Niagara River is one-half to three-fourths of a mile wide, with deep water and good anchorage. These Works are accessible by lake vessels of the largest class, with harbor room enough to accommodate the whole fleet of vessels navigating the lakes at once. Vessels can at all times sail down the rapids at the outlet of Lake Erie into the Niagara, and, with fair wind, can frequently sail up the rapids; but with head winds the aid of a steam tug is necessary. In addition to the facilities for reaching the Works by lake, river, and canal, the Niagara Falls branch of the New York Central Rail Road passes within a short distance of them. It is anticipated that an International Bridge will soon be constructed across the Niagara River, near the Works, over which will pass the passenger and freight cars of the Buffalo and Lake Huron, the Great Western, the Erie and Niagara, and the Atlantic and Great Western Railways. The construction of the latter road will make a connection with the McKean County coal fields of Pennsylvania, so that the proprietors can obtain their bituminous coal from Erie and Cleveland by lake, and from the McKean coal fields by rail. In McKean County there are extensive deposits of the Black Band Iron Ore, from which the Scotch pig iron is made, which will be accessible by rail.

The first building of the Works is situated in the angle between the river dock and the canal basin, being convenient for receiving ore, coal, and limestone by both lake and canal. The stack is thirty-six by thirty-one feet at the base, and forty-six feet in height, with fourteen feet bosh. The first seventeen feet of the base is built of stone, and the remaining portion of brick—the brick part of the structure being circular in form, and well and strongly hooped with iron hoops. The casting house—of brick—is seventy-one by forty-six feet on the ground, and eighteen feet high to the eaves. The stock house—of wood—is ninety-five feet long by forty-two feet wide, and twelve feet high to the eaves. The hoisting house is twenty-eight feet by sixteen, and fifty-six feet in height, and within it is a water balance for elevating the stock. The engine house—on the opposite side of the stack from the heating oven, including the boiler stacks—is sixty feet long by twenty-four feet wide, and is connected with the furnace stack, under and next to which is a brick passage-way eighteen by twenty-four feet. On the top of the engine house, and extending towards the stack over the arched passage-way are six boilers for generating steam, each forty-one feet long by thirty-six inches in diameter. The steam is generated by the gases from the furnace, requiring no other fuel for moving the engine. In the rear of the engine house is the pump house, of brick, which is twenty-five feet square at the base, and twenty-eight feet high, and in it are two pumps, one of which is a large and powerful duplex Worthington, for forcing the water

to the top of the stack; and one made by the Shepard Iron Works, for a like purpose. All the buildings are roofed with slate, which was the work of Mr. John Galt. The engine was built at the West Point Foundry, and is thirty-two inch cylinder and six feet stroke, with two large balance wheels each forty feet in diameter, and weighing about fifteen tons. The wind cylinder is six feet in diameter, and six feet stroke. The castings for the Works were made by George W. Tifft, Sons & Co., and the receiver and water-tanks by David Bell.

The wind from the wind cylinder passes horizontally from the engine room near the ground to a wind receiver seven feet in diameter and thirty feet high; and from the top of this cylinder, horizontally, about one hundred feet, into the heating oven which is on the opposite side of the stack from the engine house, over the cast house at the top of the furnace; and from the heating oven the hot blast passes through six tweyers, each three and one-half inches in diameter, upon the mass of material to be smelted.

This furnace, with all its auxiliary structures, including a machine shop, was designed and its erection superintended by Harvey Fuller, Esq., who has had extensive practical experience in building such structures, and that experience has given a complete furnace of the most approved practical design.

This furnace has a capacity for making about twenty-five tons of pig iron daily, equal to nine thousand one hundred and twenty-five tons per annum; and the erection of another furnace soon will double the production. The Iron Works are under the general superintendence of Elias S. Hawley, Esq., and the running of the furnaces will be superitended by the designer and builder.

STEAM FORGES.

Among the earliest workers in iron in Buffalo is Charles D. Delaney. Mr. Delaney came here in 1831. A year or two before that time Gibson, Johnson & Ehle had instituted at Black Rock Dam, machine works for building steam engines and other work in this line, such as repairing and rebuilding engines. Mr. Delaney had been living at Pittsburgh, and was employed by the above firm to come on here and superintend the construction of the engines of the steamboats Pennsylvania, New York and General Porter,—the one put in the Pennsylvania being the first marine engine ever built on these lakes. The next year Thomas Moores built one for the Uncle Sam in Detroit, and in 1833 Mr. P. B. Andrews constructed a small one in Cleveland, for the steamboat Detroit. Previous to this time marine engines were made in New York and Pittsburgh, and brought here for the boats built at this point. In 1833 Mr. Delaney went to Niagara, where he superintended the iron work for a Dry Dock at that point; from thence in 1835 he removed to New York and engaged in the Novelty Works, then owned by the late Dr. Nott and Thomas B. Stillman, where he worked most of the time till 1837, when he came back to Buffalo, and bought out a man by the name of Buttrick, who had a little shop in the old "Steam Boat Hotel" block on the corner of Main and Dayton streets; while occupying that shop he built a low pressure engine ten feet stroke for the steamboat New England. In 1841 he was burnt out, and in 1842 he built the Fulton Foundry, now the Vulcan Works, on Water street. In that shop he built two passenger cars and a number of freight cars for the Buffalo and Attica Rail Road. The wheels, axles, and in fact every part complete, were manufactured in that shop. This was the first attempt at car building in Buffalo. The same year Mr. Delaney built the Locomotive Engine (all except the boiler) "Tecumseh," which was sold to the Toledo and Akron Rail Road, which locomotive is now in use; this is believed to be the first Locomotive ever built in Buffalo. About this time reverses came, and Mr. Delaney, with many others in the iron line, was submerged in the general crash; however, full of energy and hope, he soon started again in a small blacksmith shop, employing only a boy, the two doing all the work that came in until 1853, when he purchased the site on which the Niagara Forge now stands, being 250 feet on Perry street and 140 feet on the Ohio Basin Slip. These premises cost $5,000, and here is where the first Steam Forge

in Buffalo was erected. There had been a trip hammer, however, made by him in the Fulton Foundry, which was the first thing of the kind in Buffalo. The Niagara Forge was successful up to the year 1856, when sickness and embarrassments again overtook its founder, and it passed out of his hands into those of Lafkin, Clark & Childs, who carried on the business until the period of 1860, when, through the aid of Mr. T. D. Patchin, son of the late A. D. Patchin, who was well known to our citizens as an enterprising, public spirited individual, as well as an accommodating and courteous banker, who perhaps extended more facilities to manufacturing interests than almost any one man ever engaged in banking in Buffalo, the works were again restored to Mr. Delaney, who with Mr. Patchin have been carrying them on through a successful season of years since that time. Mr. Delaney has been a hard working man all his days. After repeated successions of reverses and sickness, sufficient to break the stoutest heart, we find him still as vigorous and energetic apparently as of years gone by. His long devotion to business and unceasing perseverance in spite of all obstacles and embarrassments has at last brought a reward in the shape of solid and substantial means sufficient to make him comfortable for his remaining days. We chronicle the fact with pleasure.

During the time of the war there were forged at these works six monitor turrets complete, and parts of seven others which were sent to New York for iron clads. The iron rollers in the Union Iron Works were forged at these works, and are perhaps the largest in diameter of any work in the United States. They have now in prospect the forging of two Pacific mail ships about to be constructed in New York. The forgings for the six locomotives just finished by David Bell were done at this establishment. The works give employment to one hundred and twenty hands and have turned out in one year $240,000 of work. The large hammer used in the forging department was built by Mr. Delaney; it is considered the most effective of any instrument of the kind in the United States, weighing six and one-half tons, with a fall of six feet accelerated by a pressure of steam sixty pounds to the square inch.

Later in our history we would notice the Franklin Steam Forge of Messrs. Drullard & Hayes on Chicago street between Mackinaw and Ohio streets. These works, although of recent date, are doing a thriving business. They have a large sized hammer and are forging some very heavy pieces of work. Their business is mostly with steamboats, propellers and rail roads, although they do a large amount of heavy blacksmithing for other parties. The business is managed by two smart, active young men, thoroughly acquainted in that line, very accommodating and ambitious in turning out the finest specimens of work. They employ usually from fifteen to twenty hands, and manufacture annually from $75,000 to $100,000 of work.

In 1863, Mr. Henry Childs formed a connection with Mr. Moore, and purchased the property across the creek near the toll bridge, on which are erected the Buffalo Steam Forge Company's Works. These works lying on the creek can be easily approached by the largest class vessels sailing our lakes. In this forge is one of Naysmith's large class hammers, weighing two and a half tons, capable of doing the heaviest class work in the line; as also a Watts patent hammer, 1,500 pounds weight; this is used for lighter hammering, such as car-axles, oil-tools and blacksmith work in general. While there, we saw this machine forging car-axles, for which they have a large contract with the Great Western Road, New York Central and other roads. One man with this machine makes about sixteen axles a day. They have invested about thirty thousand dollars besides the land, and they are turning out in the neighborhood of $100,000 of work yearly.

STOVE CASTINGS.

The manufacture of Stoves in Buffalo, is a very important branch of the iron trade, although confined principally to three or four houses. Troy and Albany had up to within a few years supplied a large share of the western demand for the article, and even now these two cities are doing a very extensive business in the stove casting line, mostly for the West.

JEWETT & ROOT'S WORKS.

The oldest Stove Works in this city are those of Jewett & Root. As long ago as 1824 or '25 Mr. I. W. Skinner started the business on the spot now occupied by this firm. The firm of Jewett & Root has existed over twenty years on this same ground, on which is now one of most extensive and important among our various manufacturing concerns, which has no rival in the entire country for extent and completeness in detail. In size, we believe that no other stove works compare with them, and in arrangement, conveniences of all kinds, and as a whole, may safely challenge the world. This may seem extravagant, but we are informed by competent authority—by one who has examined every large foundry in the country—that they surpass the best constructed works abroad. The extent of the works may be seen by a brief description of the site and buildings occupied. The Stove Works and Buffalo Eagle Iron Works occupy the entire block bounded by Elk, Mississippi, Perry and Liberty streets, the latter a narrow street forming the bank of the Clark and Skinner Canal. The premises are three hundred and fifty feet on Liberty, three hundred and fifty feet on Mississippi, and one hundred and ninety-six feet on Elk street. This area is nearly covered with buildings, including two moulding rooms, one of two hundred feet in length by one hundred and fifty feet in width, the other one hundred and forty by two hundred feet. In the larger moulding room are two cupolas or melting furnaces, and in the smaller, one cupola. The works are capable of consuming forty tons of raw iron daily. Besides the immense moulding room, there is the fire proof building occupied by the offices and as a warehouse, five stories in height, and covering a ground area of eighty-five by one hundred feet. The offices and shipping room occupy the ground floor. Over the offices is the sampling room, in which specimens of the one hundred and fifty different patterns of stoves manufactured at this establishment are shown, which are as bright and shiny as British lustre can make them.

In designing stoves, Messrs. Jewett & Root have been very successful. They have made a great many kinds for different localities and markets, all of which have uniformly proved to be satisfactory. The stoves are for wood or coal, though those intended to consume the former predominate. The styles of stoves have all been particularly adapted to the wants of the great West. So well understood is this, that Jewett & Root have absorbed a large share of the trade formerly centering at Albany and Troy. The works are capable of turning out 1,500 stoves per week, from which fact their extent may be inferred.

HUBBELL & BRO.'S STOVE WORKS.

Messrs. Wood, Hubbell & Co., removed their Stove Works from Utica to this city in 1857, and purchased the block of ground on Scott street, on which spot, in 1825, the first iron in Buffalo was melted for casting purposes, by Edward Root. These grounds, which are now covered with buildings devoted to stove moulding, casting and mounting, have a frontage on Scott street of two hundred and sixty-seven feet, running back to the Hamburgh Canal, giving a water front of three hundred feet, thus affording ample facilities to load and unload by canal. These buildings have been constructed with reference to the foundry business, and are in every respect as complete as can be for the purposes used. The cupola is blown by a fan of the latest and most approved pattern. The moulding rooms are large and well ventilated. On the first of January, 1865, Messrs. Hubbell & Bro. succeeded the old firm, and have carried on the works from that time. They are running about eighteen tons of metal daily, which is used up in the various patterns of stoves, which embrace one hundred and thirty-two different patterns. These stoves are mostly adapted to the Western and Canada trade. There are about two hundred hands employed by this establishment when in full blast. The iron used is procured from the iron smelting works in Buffalo, as well as from Pittsburgh and other localities.

UNION STOVE WORKS.

The Union Stove Works, G. B. Bull & Co., proprietors, are situated on the corner of Swan and Jefferson streets, and occupy premises about one hundred feet square. They are capable of melting ten to twelve tons daily, and when in full running order employ from seventy to eighty hands. All kinds of stove castings and hollow ware are made at this establishment. They also do a large amount of casting work for Rail Roads, &c.

JOHN T. NOYE'S MILL FURNISHING ESTABLISHMENT

Occupies three of the corners formed at the crossing of Scott and Washington streets. The main building is located on the northwest corner, extending eighty feet on Scott street and ninety-five feet on Washington, running through to the Hamburgh Canal. On the southwest corner stands the Foundry, a brick building, some sixty feet square on the ground, containing two cupolas or melting furnaces. On the northeast corner are the Stone shops and Plaster Mill.

The principal building is built of brick, five stories high. The first, or ground floor, opens upon the towing-path of the canal, and is used for the blacksmith shop and the backing, balancing and storing of mill stones. Here, also, are located the boilers, in a room partitioned off by heavy brick walls. On the second floor, which is entered directly from the street, are the business offices and the finishing rooms where are the various engine lathes and other machinery used in turning and finishing cast and wrought iron. The next or third floor is occupied by the draughting or mechanical office, and the millwright department with its complex tools for shaping and fitting wood. On this floor are made smut machines, separators, and the somewhat famous Portable Mills, and all the wood furnishing usually found in a well arranged mill. The fourth floor is used for the storage and making of the large and valuable collections of patterns; while the fifth, and last, is devoted exclusively to the storage of lumber and the less valuable patterns.

Like most of the manufacturing establishments of our city, this had its origin in extremely humble beginnings. It was founded in 1834 by the late Elisha Hayward, subsequently conducted by Hayward & Noye, and since Mr. Hayward's death, by Mr. Noye alone. Its growth has been slow and tedious, but notwithstanding the many and almost insuperable difficulties attending it, has assumed for itself a position among the most important of the manufacturing interests of our city. It now employs seventy-five men in the various departments. Its manufactures, which consist almost exclusively of the gearing, general machinery, and usual furnishing for flouring and grist mills, find a market chiefly in the States and Territories of the great West, though almost every State in the Union is represented upon its order books, besides Cuba, South America and the Canadas. The two mills of Messrs. Smith & Jewell, in Brooklyn, of eighteen runs of stone, with all the gearing and running machinery, were finished entire from this establishment; and it is now furnishing a complete outfit for a mill of six runs building at Jersey City, New Jersey, while the "Galigo Mills," at Richmond, Virginia, which were destroyed at the time of the evacuation by the rebels, and which are now rebuilding, are receiving a large part of their furnishing from the same house. Its California trade is quite large, as was also its southern trade before the war.

It may be interesting to every man who earns his bread by the sweat of his brow, to know that all the flour, from which it is made, is ground between stones which come from the quarries of France, and is sifted through silk from the looms of Switzerland. Nowhere in this country or in Europe, save in France, has there been found anything suitable for mill stones; and nowhere except in Switzerland and some portions of France, do they have the silk for weaving bolting cloths. Hundreds of thousands of dollars' worth of burr stones and bolting cloths are imported into this country annually, no inconsiderable portion of which finds its way to our own city, and is thence distributed over the country.

Mr. Noye, in order to facilitate the transaction of his business and to accommodate his Western customers, some years ago established a branch at Chicago, which aids to keep green, in the growing West, the memory of the Queen City of the Lakes.

EARLY BRASS FOUNDRIES.

Among the early brass foundries may be mentioned that of Mr. Frank Colligon. He commenced as an apprentice with Peugeot & Brother in 1835, in a little shop on Canal street between Main and Lloyd streets. After serving an apprenticehip of some six years, he worked for Adam Good for a time, and then set up a shop for himself on the very ground where he had served his apprenticeship. This was in 1844. He obtained a limited credit, and commenced repairing machinery, presses and all small work in the brass line. By hard labor and close economy he managed to pay his way, and by degrees to increase his business. About this time, Mr. W. F. Ketchum was experimenting with his mowing machine, the iron and turning work of which was done by Mr. Colligon. It may be said that he assisted in the construction of the first mowing machine that ever successfully cut grass in the world. He continued to do the work on Ketchum's machines up to the time Mr. Howard entered into the business and erected shops in this city for their manufacture. In 1852 Mr. C. completed his present works on the corner of Washington and Perry streets, where he has followed up the line of business, adding to it the manufacture of small portable engines. In 1861 he obtained a patent for an improved boiler, which is so constructed as to make a great saving in fuel. He has made during the time about two hundred and fifty of these portable engines, which have found their way into all parts of the country, over forty of which are now in operation in different workshops in this city. The manufacture of these engines is now a feature of his trade, and for a small machine they give ample satisfaction. Mr. Adam Good was the first brass founder that did business in Buffalo. The oldest resident remembers his establishment on Ohio street, where it has been for the last twenty-five or thirty years. He was successful in the early days in casting some of the best toned steamboat and locomotive bells that were then made. The concern is now largely in the line of all manner of brass casting, as well as the manufacture of portable engines and machinery work in general, including air pumps, tannery works, steam and gas fitting, &c., &c., &c. Mr. Good has been succeeded by Messrs. Farrar, Trefts & Knight, a very enterprising firm, who have made important extensions to the works, which still retain the name of Lafayette Brass and Iron Works, as also the good will of its founder, Adam Good.

MALLEABLE IRON WORKS.

The manufacture of Malleable Iron is attended with so many difficulties that but few men have cared to invest capital in the undertaking. Not until quite recently has the necessary experience and skill been found that could successfully convert cast iron into the many forms and shapes in which we now find it, retaining the ductility and malleability sufficient for the thousand uses it is every day put to. When pig iron is to be converted into malleable iron it has to undergo certain processes of purification in order to decarbonize and expel foreign matters which affect its natural properties of malleability and ductility; although these foreign matters were essential to give it the necessary fusibility for the obtaining of the cast iron from the ore, and are, for the same reason, equally essential for the production of the cast articles so valuable in machinery and other works of art, they must be got rid of before cast iron can be converted into malleable iron, which is used for purposes requiring the greater tenacity and strength of wrought iron so called. The operation of refining consists in remoulding the pig and throwing on the melted mass a jet of oxygen which consumes the superfluous carbon. This operation is performed in what are termed refining furnaces, which would be difficult to explain without necessary drawings. The operation begins by filling the hearth or crucible of the furnace with coke; upon this are laid the pigs of iron, and more coke is heaped

upon them. The fire is kindled at the bottom; after a little the blast is let on, and as the heat increases the iron melts and flows to the bottom; more coke is added as it burns away, to preserve the metal in a state of fusion. It is then allowed to cool; after which the masses are broken up and remelted in the ordinary cupola furnace, and cast into the almost endless varieties of useful and ornamental as well as essential articles of use demanded by our age, which is ever devising and inventing some new thing which will add to man's comfort and happiness. The first attempt in this city to manufacture malleable castings was made some twelve years ago by Messrs. Kibbe & Bristol. It did not prove a success in their hands, and they abandoned the enterprise. It is not until quite recently that the business has been brought to comparative perfection here. Messrs. Pratt & Letchworth, after an expenditure of much capital, have succeeded, it is believed, in acquiring a mastery of the art, which promises to yield a reward due to perseverance and determination in an undertaking honorable to themselves and beneficial to the country. In their hands it has already grown into a trade of large dimensions, and will, when their works are fairly completed, give employment to a population sufficient to people a respectable sized village. Their works are a part of what was known as the Townsend Car Establishment, located at Black Rock, now North Buffalo, in the limits of this city. These works cover several acres of land, with an extended front on the Scajaquada Creek, whose channel has been improved so as to furnish a navigable communication with the Niagara River of sufficient depth to allow boats to lie alongside their docks and discharge coal, iron, etc., as also to take freight for any part of the Lake country. The Central Railroad track runs along the front of these works, where are passenger and freight stations, giving ample facilities for shipping by rail East, West, and into all parts of Canada. The shops, moulding rooms, warehouses, packing apartments, and various other parts of the former car works, have been conveniently arranged and adapted to the needs of this business, while extensive additions, such as capacious fire proof vaults, have been constructed for the storage and safe keeping of valuable patterns and designs, which could not be replaced except at great expense.

The land on which these works stand slopes gradually down to the creek, while a large sewer and sufficient under drainage render it perfectly dry and healthy at all seasons. An unstinted outlay has been made in introducing into the different apartments where labor is performed, pure water, fresh air, and other sanitary conditions so necessary to the comfort and health of the operatives.

The inside grounds are laid out tastefully with walks and alleys shaded with trees of quick growing foliage, while little clusters of shrubbery, clumps of evergreens and beautiful flowering plants dot the angles and corners of the pathways. In time, heavy shade trees will surround the premises, and all the adornments necessary to make them attractive to industry will be instituted, thus giving to labor harmonious surroundings and making pleasant the hours spent in the workshops. Proprietors, employing great numbers of hands, will always find their account in beautifying the grounds and rendering the shops devoted to labor agreeable and healthful, in a remunerative return in unregretted hours of work performed by willing hands, and, in addition, the gratifying reflection that they are contributing to the elevation of mankind by infusing a taste for the beautiful which will spread beyond the bounds of the work places to the homes and gardens of the industrial classes.

In the spring of 1864, the first stone was laid in the erection of Furnaces for the manufacture of Malleable Iron, and on the 2d day of January, 1865, the first Furnace was opened, from which was taken the first thoroughly annealed and genuine malleable iron ever made in Buffalo. Up to the present time, April, 1866, the utmost success has attended these works. They have turned out an article second to none in quality in the United States, if in the world. It would be impossible in the space left us, to go into a description of the different kinds of goods manufactured at these works; neither could we, understandingly, have gone into a detailed account of the various machinery and implements used, in the different workshops of this enterprising firm. We take pleasure, however, in being able to bring to the notice of the public a somewhat new line of

business, which is to be of great importance to the town as well as to those dealing in the articles manufactured.

The Townsend Manufacturing Company, (partially in the same line,) although located in an adjoining county, may be claimed as a Buffalo institution. Mr. Townsend himself was for a long time in the employ of the Messrs. Wilkeson while they were engaged in the iron business in this city. After a time he commenced in the town of Westfield, the manufacture of door locks, window trimmings, etc. The business grew and enlarged on his hands, when a few gentlemen of capital organized a company under the manufacturing law, and established head-quarters in this city, where they have now in course of construction two large stores on Main street, near the corner of Quay street, running nearly through to Washington street. The buildings are four stories with a spacious basement, in which is a large engine to run the machinery. In these works they propose to weave iron-wire into all manner and variety of useful and ornamental articles, such as window shades, screens, gauze, and the illimitable uses to which iron and brass wire can be put. When their works are completed and in operation, they will give employment to some two hundred girls and boys in weaving iron-wire, and in the manufacture of the various necessary articles which are wrought from that material. This is a new branch of the iron and brass business in Buffalo, and will necessitate the introduction here of a wire drawing establishment, as well as other works that will naturally follow in its train.

FILE AND TOOL WORKS.

Among the many new and important branches of business in the iron line, may be mentioned the Wolstenholme File Manufacturing Company. This company was organized in the summer of 1864, by an association of wealthy gentlemen of this city, George Truscott, Esq., being President, and Henry Clifton, Secretary and Treasurer. In May 1865, the company commenced the manufacture of files in all their varieties, for which they find sale as fast as they can turn them out. Their works are located on Niagara street, near Clinton Avenue, and are capable of working one hundred and twenty hands. The steel is brought from Pittsburgh; a fact not much to the credit of Buffalo, when it can be demonstrated that there is not a point in the United States where steel making can be carried on as profitably as here. Nor is there a locality where a manufacture of the kind is so much needed as in Buffalo, where capital is ready whenever competent skill is found to embark in the enterprise.

Some idea may be formed of the file business of the United States, when it is shown that from four to five millions of dollars of files are annually imported, and from five to six millions are manufactured here, and large as the supply is, it is not sufficient for the demand. From fifty to one hundred thousand dollars' worth are used in some large iron work shops, as well as government and railroad machine shops, yearly. As a branch of the iron business, it would seem to be as profitable as most others. The Whipple File Company of Providence, for instance, divides sixty to eighty per cent. per annum on its capital. The Russell File Company, in New York, after four months' work paid ten per cent. on its capital, besides retaining on hand a surplus sufficient to guarantee a dividend of twice ten per cent. in March, when the next quarterly dividend will be made. There is another company at Johnstown in this State whose dividends are as large as either of the above named. The Wolstenholme Works of our city will probably be able to turn out as much of the manufactured article when all its machinery is complete, as either of the before named companies. We predict that not many years will roll over when Buffalo will be the great head of the file market in the country. To account where all the files go, it is said that in ordinary work shops a good workman will use up a file a day of the best manufacture.

While on the subject of steel, we will not forget that for many years Mr. George Parr has been engaged in the manufacture of mechanics' tools, screw-drivers, bench-screws, mallets, saw-sets, tool-chests, etc., etc. We believe Mr. Parr keeps steadily employed some two hundred hands. What amount of raw material in the way of steel

he uses, we are unable to state, but from the magnitude of his business it must be very large. Mr. Parr has recently fitted up the large building known as the Old Lead Works, on the corner of Sixth and Georgia streets, where he has added new shops, and is now able, or will be shortly, to keep up with the demand for his various goods. Mr. Parr deserves success; there is not a harder working man in the town.

L. & I. J. White have been long celebrated in the edge-tool line, as turning out goods of that description superior to any imported. They are also large dealers in the article of skates, which are about as necessary now as shoes. They are at the old stand on Ohio street, which from time to time has been enlarged to accommodate their increasing trade.

LOCOMOTIVE LAMPS.

Among the many lesser establishments where iron is wrought up and consumed in quantities, we may mention locomotive head-lights, lamps and lanterns, used by railroad companies. The manufacture of these necessary articles was commenced in 1854 by the Cleveland Brothers, and in 1862 the concern was organized under the manufacturing law, as the Buffalo Steam Gauge Company, including the making of all kinds of steam gauges. This company is now manufacturing for railroad companies principally, locomotive head-lights, lamps and lanterns. Their business has increased very steadily until their orders are far in advance of their ability to fill them.

HORSE-SHOE NAILS.

A very important addition to the iron trade has been lately made in our city by the Messrs. Brundage Brothers, in the way of horse-shoe nails. After a tedious experience of over fifteen years, they claim to have perfected a machine for the above purpose, which will turn out three hundred pounds per day of the best specimen of that kind of nail now in the market. These nails are hammered out with immense rapidity, almost two in a second. The iron used is imported by the Messrs. Pratt from Norway and slit into the requisite sized rods at their works. The proprietors of this machine claim that they will manufacture all the horse-shoe nails that are wanted in this country. They are now building more machines for the purpose, and intend enlarging their works at once. Buffalo is to be their head-quarters, from whence they can ship to any quarter of the world, the manufactured article. We hope, ere long, to chronicle the fact that instead of sending to Norway for their iron, it may be furnished from our own soil. These gentlemen are likewise largely engaged in iron bridge building. We saw on their premises, ready for shipment, a bridge constructed mostly of wrought iron to be sent to Oil City, Pennsylvania; it is a double track bridge, one hundred and eighty feet span, and is to be of immense strength. One of the brothers has been engaged for many years in bridge building, and will hereafter make Buffalo his home, and at this point he intends to enter heavily into that branch of industry.

BUFFALO BOLT AND NUT WORKS.

These works are situate on the corner of Clinton and Adams streets. They were established two years ago by Messrs. Bell & Sherwood, who came here from Amsterdam in this State. The works occupy a block of land 100 by 200 feet, which are mostly covered with buildings for work shops, storage and packing rooms, offices, &c. They have four nut machines capable of turning out from three to four thousand pounds daily, and sufficient machinery to turn out fifteen to twenty thousand bolts per day. The works employ from thirty-five to forty hands, and the average consumption of iron is about seven hundred tons annually. There is only one other establishment in the State doing a larger business in this line. The iron used is made at the Pratt Works, from the very best scrap iron. The character of goods made at this establishment give good satisfaction wherever they have been introduced. The demand has been more than equal to the ability to supply, and they have now orders ahead for more than they

can fill. Most of their sales are for this State and the West. They have $50,000 invested in the business. These works are located in the immediate vicinity where the workmen live, which is considered an advantage which overbalances the cost of cartage of materials both ways. The nut machines are a very ingenious contrivance, and it is astonishing with what rapidity they turn out the article. Notwithstanding four of them are constantly running—each machine making a nut per second—it is impossible to keep pace with the demand. This, of course, will necessitate an enlargement of the works, which we have no doubt will be done the present year.

IRON FENCES, SAFES, BANK VAULTS, ETC.

Mr. George Jones came to this city in 1829, and took charge of the smithshop of Wilkeson, Beals & Co. In 1831, he hired the engine shop of Wilkeson, Beals & Co., and carried on the business for about a year, and in 1834, built a shop on Ellicott street. In 1835 he bought the lot on Pearl street, where he carried on the manufacture of iron fences, bank vaults, &c., and was the first to introduce those styles of manufacture in this city.

In 1856 he bought the land on the corner of the Terrace and Henry street, where his present works now stand. We saw in his shop, the iron vaults for the two savings banks now in course of erection in this city, as also, several very superior fire-proof and thief-proof safes finished in beautiful style. In no city in the world are to be found handsomer specimens of iron fences and decorative work for lawns, burial places, balustrades, and the endless characters of that work, than are produced in Buffalo. Much of the credit is due to Mr. Jones for introducing that character of work. Mr. Jones keeps from ten to fifteen hands constantly employed, and turned out about $20,000 of work in 1865.

Mr. R. M. Bingham, successor to Eddy & Bingham, is also engaged in the manufacture of iron fences, as well as doing all manner of casting work. He came here in 1835, and entered the employ of Wilkeson & Goodrich, who then had a small foundry on Ohio street, opposite Adam Good's. There were then only two foundries in Buffalo. At that time there was not over 3,000 lbs. of iron melted in all Buffalo. To-day there is probably melted from 125 to 150 tons daily. Mr. Bingham has about ten to fifteen men in his employ. Messrs. Barth & Husen, on Clinton street, are also engaged in making fire-proof and burglar safes, and have finished and sold quite a number to go out of town, as well as many for merchants and others in this city. There is no reason why iron safes cannot as well be made here as at any point in the United States.

CAR WHEELS.

A very important branch of business in Buffalo, is the manufacture of car wheels. When it is taken into consideration that of all parts of the car, for passenger traffic particularly, there is none which requires so much care and experience as the construction of the wheel. On them in a measure depends the safety of the thousands of persons transported daily. How necessary and important it is then that the quality of the iron used, the manner of construction, and all that pertains to this part of the carriage should be perfectly comprehended by those in the line of that kind of business. We find in Buffalo an establishment, second only to one other in the United States, carrying on this enterprise. Messrs. J. & N. C. Scoville commenced making car wheels in 1856. They have now a block of land one hundred and fifty-six feet on Louisiana street, and three hundred and thirty feet on the Hamburgh Canal, which is covered by their works. The canal gives them a water front, where every convenience is afforded for unloading coal and iron in their yard, as also for shipping by water to any point East or West. On the opposite side the railroad track is laid, where cars can come up to the works and receive all freight destined to go by rail. The iron ore used is from the Salisbury mines in Connecticut, which is taken to Norwich, Chenango County, in this State, and smelted in a charcoal furnace belonging to these gentlemen, from whence it is brought to this city. The consumption of this manufactured iron at these works is about 3,000 tons per

year, all of which is melted into car wheels. They have two cupolas capable of running twenty-six tons daily. They are turning out at this time about one hundred wheels a day; in summer their melts are somewhat less. They supply all the roads running out of Buffalo, a number of Western roads, besides many others in Pennsylvania. These works are well worth visiting and inspecting by those curious to know how car wheels are made, and how much care and skill is required in their manufacture. The writer was told that an accident had never occurred on any road from the breaking of one of their wheels.

SHEET IRON.

Buffalo needs a sheet iron manufactory; thousands of tons of this article are used in the various departments of industry annually. Our supplies, except Russia iron, come mostly from Pittsburgh and Philadelphia. There is no reason why a company should not be formed here for its manufacture. It may be possible that a quality of iron as good as that imported from Russia, may yet be produced in our own city. For a long series of years much attention, and fabulous sums of money, have been expended in endeavoring to imitate that quality of iron and ascertain the secret of making it, in this country and in England. We believe the English government has offered large rewards to any one who would unravel the secret or method of making that kind of iron. Very good imitations are made in England as well as in several places in the United States, but the real thing to-day is shrouded in mystery. A writer who traveled through Siberia in 1827, and gave a large share of his attention to metallurgy during his travels, says in speaking of the manner of making sheet iron in the Ural iron district, that "The making of iron plates is carried to great perfection. The rollers used are not formed by the lathe, but cast at once with the requisite smoothness and regularity in moulds, rubbed over with graphite, which are bored at Verkhnei, Turinsk. While the plates are undergoing the operation of rolling out, particular care is taken that the edges be kept free from gaps by paring them with large shears. They are then placed in layers of twelve or twenty on an ingeniously contrived movable bench, which passes them to and fro under a hammer of forty 'poods' weight, by which both sides are alternately exposed to its action, while a man carefully brushes off the scales that are continually produced on the surface." These black iron sheets, he further observes, "have been long applied to the manufacture of a great variety of utensils, besides being used in covering the roofs of houses, as the excellent quality of the metal enables it to assume any degree of tenuity." This, doubtless, is the process by which the celebrated Russia iron is made, which the world has so long been trying to imitate. Some ingenious workman may yet be able to apply the process in this country, and give us as good iron as that imported from Russia. It may be observed that the ores of the Ural iron district, where this iron is made, are magnetic oxyds, the same that we find in the Lake Superior region, and occur in mountain like masses as they do there.

CRACKER MACHINES.

While we were traveling around among the big machine factories in the neighborhood of Chicago street, we bolted into a shop on Miami street, where we found fifteen or twenty men busily at work. We introduced ourself to the proprietor with a sort of saucy look and perhaps impertinent manner, asking him what he was building, as we espied a queer looking piece of furniture sitting up on four legs, the front ones being considerably the shortest, something like the inclined plane the Sons of Malta used to slide down on. Said he, "I am making Cracker Machines. I came here from Rochester. I have been in this shop two years. I employ from fifteen to twenty hands, and must soon have an additional number. I turn out about one machine a week and could sell more if I could make them. I get from four to six hundred dollars apiece for my machines, and am satisfied with the profit I make. I find sale for them in all parts of the country. Have sent them West, South, into Canada, and to California. Any further trade with us?" "Not in particular," we said. So we thanked Mr. Ruger for the

information he gave, and take pleasure in asking the bakers all over the country to come to Buffalo if they want a first rate Cracker Machine.

BUFFALO SCALE WORKS.

Not one person in five hundred knows that we have a manufactory of scales in this city, in magnitude second only to one other in the United States. Such is the fact, nevertheless. The credit of building up this institution is mainly due to Mr. John Weeks, who commenced in a small way to manufacture articles in that line in the year 1858, at No. 81 Main street. He saw at that time that Buffalo was a point where scales could be made as well as in Vermont. In 1860 he associated some capital in the business, organized a company and commenced enlarging the boundaries of his operations. The Company bought the block of land and buildings on Exchange street near Chicago street, which from time to time have been enlarged, until now it almost covers a full block, being entirely devoted to and used by the company in their enlarged transactions. The manufacture embraces all manner of scales, from that of Weigh Lock down to the smallest specimen made. The reputation acquired by this company is due to the quality and accuracy of its work. No pains have been spared in procuring the most skillful and practical workmen that could be found. In this way the reputation was gained and kept for as good if not the best scales manufactured in the United States. There are about eighty or ninety hands constantly employed in these works. In New York City they have a wholesale house, which supplies the South and Eastern markets, and at Chicago is another for the convenience of the Western trade. Buffalo supplies this establishment with everything needed to carry on its business, except steel, which, we believe, is imported. The sales of this concern amount to $100,000 and over yearly.

FIRE CLAY WORKS.

Consequent upon the various manufactures of iron ware here, it has necessitated the introduction of works for the above mentioned purpose, and we already find that a Company are now erecting on the Scajaquada Creek in North Buffalo, an extensive establishment for making fire bricks, gas retorts, brick stove linings, &c., &c. This important branch of manufacture is one long needed, and will fill a want long felt in all the Lake basin. Heretofore, all builders of blast furnaces at this point and west of it have had to send to New Jersey for the best quality of fire bricks, which are indispensable for the making of furnace hearths and linings. All puddling furnaces, reheating furnaces, forge fires, and boiler arches, require the best of bricks. Gas works, for their retorts and arches, consume great quantities of fire clay fabrics. No place can so well meet their wants as Buffalo.

In Northeastern Ohio and West Pennsylvania, a great quantity of fire bricks are made, but of very inferior quality, which will not sell alongside of a good, truly refractory article, such as is made from the clay of New Jersey, which will be used in this establishment. Out of this fire brick establishment, it is not unlikely that a pottery and porcelain manufactory will yet grow. If it is found desirable to bring the clay of New Jersey here to work up into such coarse articles as retorts, brick, &c., why not bring here the kaolin of Vermont to work up into China ware. It is also an important feature in respect to glass making in this city, when it shall have been established, as they will be enabled to make melting pots quite equal to the Stourbridge pots of England.

WHERE ARE WE TO GET OUR SUPPLY OF IRON?

Before concluding our article, we desire to say a few words about the supply of iron, not only the ore, but of the manufactured material. It is well known that charcoal iron is the most suitable for working into car wheels, cannon, tires for locomotives, boiler plate, and for the vast present and prospective requirement of the steel maker in the departments of cast steel, puddle steel, and, above all, for the use in the Bessemer or

Pneumatic Converter. Charcoal iron has fallen off relatively as mineral coal iron has been produced. Pennsylvania and Ohio are now manufacturing iron by means of anthracite and bituminous coal, where a few years ago charcoal was used. In the Eastern States the charcoal furnaces have gone out of blast, owing to the appreciation in value of timber lands and other causes. Where then are we to look in the early future for our supply of this necessary raw material? We are told by a writer in Hunt's Magazine, December number, that one-eighth of all the iron now made in the entire United States is dug from the mines of Marquette County, and yet, ten years ago, a piece of Lake Superior ore was a curiosity to most of our practical metallurgists. The Sault Ste. Marie Canal was opened ten years ago, (1855.) The first year of the opening of that canal, there was exported 1,445 tons of ore. In 1864, the exports were 235,123 tons. In 1858, the manufacture of pig iron from charcoal commenced at the Pioneer Works, near Marquette, and 1,627 tons sent to market. This manufacture has increased by the erection of new furnaces, until there are now six in operation, so that from 1858 to 1864, there had been sent to market from Marquette County, 53,845 tons of pig iron. When we consider that mining in the Lake Superior region is in its infancy, we hardly know what estimate to put on its production, when capital and enterprise shall have opened and fairly developed the smallest portion of this rich territory. It is stated that at the Jackson mine, a drill hole, eighteen feet in depth and two inches in diameter, loaded with powder and exploded last spring, brought down 4,000 tons of ore. It will be borne in mind that this pig iron of which we have been speaking, which is so essential in the fabrication of boiler plates, car wheels, sheet iron, and a hundred other uses, passes by our very doors, is manufactured and brought back and sold. We have shown that hereafter our charcoal iron is to come from Lake Superior, and when it is taken into consideration that the metal can be brought here as cheap as to any point on the lower lakes, and with all the other advantages that we possess, it does seem that the opportunity will not remain long before capitalists will see it and improve it.

The rapid clearing up and settlement of our country is such, that it is safe to predict that fifty years hence, such a thing as a ton of charcoal pig iron will be unknown. Then we shall have to rely on mineral iron and new discoveries.

The present position of the iron manufacture in Great Britain is so interesting to us that we reproduce the following remarks made by Mr. J. K. Blackwell, (an eminent Statistician,) on the occasion of his reading a paper on the "Iron Industry of the British Empire, with reference to that of other countries," before the "Society of Arts."

Mr. Blackwell says: "*In Great Britain the most favorable localities for the iron industry are already fully occupied.*"

Of the iron industry of the United States, he says, "that it is already highly important and capable of great extension, which must in a great degree be determined by the *available means of transport and the facility with which the ore can be brought in proximity with the fuel.* Iron ores of various classes are largely and widely developed. Magnetic oxyds accompanying the primary formations which skirt the Atlantic coast, and following them in their western prolongations, through the region of the great lakes."

We have shown that here in our city, the ores of the Northwest must come to meet the anthracite coal of Pennsylvania. The ore is brought in the ship, the coal in a boat or car; this being the point of change in mode of transit, becomes the proper smelting point. Our available means of transit, to which allusion is made by Mr. Blackwell, are without limit almost,—so the iron business here is limited only by the demand. No where else in the United States, can so good and so cheap ores and fuels be so readily brought together, as we have proved. Show us the man bold enough to place a limit to our demand for iron! The product of pig iron in our country in 1865 was 1,100,000 tons, yet the demand is unsatisfied. We continue to import from England vast quantities, all of which we ought to make for ourselves, for we have more and better ores and coals, than there is in all the world besides, and can make a better, and in the end, (once our manufactures are fully established,) a cheaper iron than can be made elsewhere.

The cost of iron, perhaps more than that of any other manufactured production of man, is the result of labor.

All the materials of which it is composed are without value, as they repose in the hills and valleys, where nature formed them. Labor is applied to these valueless materials; the result is the iron produced. Does it not follow that the price paid to the laborer for his hire, determines the cost of the iron he has made? *Iron is chrystallized labor.*

Is it not true that if any other country can produce iron for a less price than we can, that it is because they pay less wages to the laborer who makes it? We truly claim that we have facilities in the United States, such as no other country possesses, for making iron—the best of materials, so situated that they are easily brought together. Still we admit that other countries can, and do make iron for less money per ton than we do, and the reason why this is so, is because we pay the laborer much higher wages. We think it is best to pay the higher wages, even if our iron costs more. Liberal wages secure in the laborer a higher grade of intellect, a higher state of civilization. We think a representative democracy, such as ours, cannot be maintained, unless all the people of all classes are educated and highly civilized. To that end we must protect our labor from the competition of the poorly paid labor of the monarchies of other countries.

Since writing the foregoing article for our first edition, we have been placed in possession of some facts which have an important bearing on the matter of iron supplies for our city, as well as other localities where iron is smelted. We are told the celebrated Sterling Iron Mines in Orange County, N. Y., owned by the Townsend family for over one hundred years, which have been famed ever since revolutionary times, for producing perhaps the best iron made in the world, have lately passed into the hands of a company of capitalists, one of whom is Jay Cooke, who intend to work them extensively, and sell their unrivalled ores to iron smelters. They will have a deposit of ore at Piermont, on the Hudson River, where western bound canal boats can take it on and bring it here, for the supply of our iron works, and perhaps others still farther west. The concern is the "Sterling Iron and Railway Co.," office 206 South Fourth street, Philadelphia. This ore is practically inexhaustible, and is cheaply quarried, is very pure and rich, yielding from sixty-eight to seventy per cent. of iron. The supply thus opened to our iron works will always control the prices of the Lake Superior ores, and prevent any great rise in prices there. The more numerous the sources of supply the more uniformity in prices. We never will again hear of five dollars per ton for iron ore at Marquette, in the face of this supply of a vastly better ore at a much lower price. From this Sterling ore a most valuable and rare quality of pig iron has for a long time been made, which was indispensable for the use of malleable iron works. There seems no reason why the ore cannot now be taken to the West and smelted with charcoal for that quality of iron, thus giving to our canal forwarders a new item to carry.

The lower vein of coal in McKean County was reached recently, and is said to be the same quality which is mined farther west, near the Ohio line, known as the "splint" coal, (similar to the Glasgow splint coal,) and can be used in its raw state, to smelt iron; a fact true of no other variety of bituminous coal yet found in the United States. This coal will not produce as good an iron as Anthracite, still at times when the latter bears high prices, it can be used as a substitute for it, to the advantage of our iron masters. It will be seen that our iron works have newly opened to them a supply of both ore and fuel not before thought available.

MANUFACTURING INTERESTS OF BUFFALO.

In treating of manufactures (other than iron) we find we shall be obliged to deal somewhat generally with the space at our command. What we have said of Buffalo, as a center for iron manufactures, can, with propriety, be applied to almost every other branch of mechanical industry. Here we have an abundance of labor, cheap food and fuel, a healthy city, with shipping facilities by water and rail unsurpassed by any locality in the Union. If our space would permit we should take pleasure in detailing the business of all the various branches of manufactures carried on here. Another year we hope to do so.

LEATHER.

The next most important interest is that of Leather. It is conceded, we believe, that there is more capital invested in the manufacture of that article in Buffalo, than any place in the United States, if we except the city of New York.

There are sixty establishments, in this city, engaged in the manufacture of leather in one way and another, several of whose annual sales count up into the millions of dollars. The manufactured article finds its market principally in the West. Large quantities are sold to go to Cincinnati, Chicago, St. Louis. In fact all the principal cities in the West, and Southwest, get supplied from us. The leather manufacture may be said to be a fixed industry for Buffalo. Ages must elapse before the vast forests of hemlock, which furnish bark for tanning, will be exhausted. At the south of us, far into Pennsylvania, the land is densely covered with hemlock trees of the richest growth, whose bark is brought to this city and vicinity sufficiently cheap to ensure the permanency of that business in our midst.

BOOT AND SHOE MAKING.

Growing out of the manufacture of leather comes that of boots and shoes, lasts, findings, &c., &c. We have in this city several large class establishments of this kind. The pioneers in the line where Forbush, Brown & Co. They came here in 1853, without capital. They saw that Buffalo was to be a good point where the business could be prosecuted profitably, if a start could be made. For several years it was up hill work for them; not being able to get accommodations at bank here, the little funds they got were procured in Massachusetts. After a year or two, the business began to increase a little, and at length became established on a firm basis. We were informed by one of the firm, that they have laid out a business for 1866, that will amount to sales of about $225,000, judging from what was done by them in 1865, and with their eastern house, whose goods are sold in this market, they expect to swell it to $400,000 in the coming year.

Messrs. Moore & White, Nos. 2 and 4 Exchange street, commenced business in the above line as late as August last, and are now employing sixty to seventy-five hands, and turn out about one hundred and fifty pairs a day. It is the intention of these gentlemen to enlarge their work this spring, so as to give employment to one hundred and fifty hands, in order to keep up with the increasing demand for their work. They have the only pegging machine in Buffalo, which as well as other machinery in their works is driven by steam power. They not only do machine, but hand work, which is finished up in the finest style, and of the very best material, which has already given them a deserved reputation at the West, where they find customers for the goods about as fast as they can be turned out. Mr. Moores will be known as Alderman Moores of the Third Ward, who has been for a long time a citizen of Buffalo, and more or less connected with its manufacturing interests. His partner, Mr. White, is a young man of great activity and comprehends the business fully. If we are not greatly mistaken these gentlemen will build up a business that cannot help but make them rich in a few years.

Ungracious people say that Forbush, Brown & Co., have made $200,000 in the business since they commenced.

Cornells & Mason, are new men here. They opened in the same line of business in May last, in the large building corner of Washington street and the Hamburgh Canal. They are employing about sixty hands. They wholesale entirely to the West. Their business is increasing, and they are satisfied that Buffalo is the place for the boot and shoe trade. There are several other establishments that are manufacturing boots and shoes, but not on as large a scale as the before mentioned firms, for names of which, we refer to the directory in this work. Besides the manufacture of these goods in Buffalo, large quantities are sold at wholesale by such houses as O. P. Ramsdell & Co., who are the heaviest dealers in the city; besides, we have W. C. & G. W. Sweet, Mabie, Pettit and others. From a calculation made by a gentleman in the trade who has been somewhat careful in his estimate, we find that boots and shoes puchased abroad by dealers in this city, amount to $750,000 annually, which amount, he says, is more likely to be under than over the mark.

FINISHED LEATHER, LASTS, ETC.

In the way of finished leather, lasts, etc., we find Mr. S. W. Nash, Exchange street, doing a large business. Like a great many others, who have built up a prosperous trade by incessant perseverance, so with Mr. Nash. He commenced in a small way, a few years since, and his sales last year of goods of his own manufacture and those purchased abroad amounted to about $200,000. In the article of lasts, about $20,000 worth are made and sold annually in this market.

AGRICULTURAL IMPLEMENTS AND MACHINERY.

Buffalo is already acknowledged as the great headquarters for the manufacture of various Agricultural Machines, Implements, Tools, &c., &c. To no other place are the farmers of this country, as well as many foreign lands, so largely indebted as to Buffalo for this class of machinery. Her reputation is world-wide as having invented the first Mowing Machine ever used, the best Harvester and various other Agricultural Machines, and that we are turning out the best and most reliable work of this kind to be found anywhere.

THRESHING MACHINES.

Brayley & Pitts' Works occupy a part of two squares of ground, bounded on the Erie Canal, Carolina, Fourth and Efner streets. The late Mr. John A. Pitts came here in the year 1851; he had already established several small works: the first one in his native State, in the town of Winthrop, Maine; in Albany and Rochester N. Y. and

in Springfield, Ohio, laboring all through those fourteen years with indefatigable energy and toil to introduce to the farmers this valuable machine. He was the first to establish in this city a manufactory of this kind. This establishment is indebted to him for its celebrity, mainly for the valuable inventions made by him.

This gentleman is accredited with having invented the Treading or Endless Chain Horse Power, which was patented by him in 1836; also for the first Chain Pump, and the first combined Thresher and Separator, patented in 1837; the latter is now a leading article manufactured at these works. Important improvements have been made in the construction, operation, and capacity of this machine since it was first invented, at first requiring only the power of two horses, and threshing about one hundred bushels of grain per day; now various sizes are made, for four, for six, for eight and for ten horses; also larger sizes adapted for steam power, which will thresh and clean from 2,000 to 3,000 bushels of grain per day. From five to six hundred of these machines are now made and sold annually from these works. Since first invented, there have been added some valuable improvements, one of which is for measuring, counting and bagging the grain, another for elevating the straw and delivering it on the stacks. The value of such a labor saving machine as this can hardly be computed.

In these works are moulding rooms, where they make their own castings; a large lumber yard, where sufficient lumber is constantly on hand to be sufficiently seasoned before being worked into the machines. The iron or machine shop is large, and supplied with the best tools to be had. The wood shop is also supplied with all the most improved tools for this branch of work. The increasing demand for this machine over all others of similar style is attributed of late years to the excellency of the materials and its good construction; their renown in this respect is world wide; it is said they are the only machines that stand the very dry and scorching climate of the Pacific coast. Large numbers are sold annually for Australia, and for South America, California and Oregon. Since the close of the rebellion, orders are again coming in from Texas and other parts of the Southern country. They employ from one hundred and thirty to one hundred and fifty men, and use of pig and bar iron about one thousand tons annually. The pig iron is from the Salisbury and other charcoal furnaces, of the very best brands. The bar iron is from the rolling mills in this city.

MOWING AND REAPING MACHINES.

Buffalo genius produced the first Mowing Machine that ever successfully cut grass in the world. Mr. W. F. Ketchum labored hard and long, meeting with one obstacle after another, and in despair almost gave up the project of attempting to cut grass by machinery, until, at length Mr. R. L. Howard seeing that the principle involved in the Ketchum Machine was correct, engaged in the enterprise and put capital in the undertaking, and at length succeeded in perfecting one of the most important instruments ever discovered for this purpose. For a time the machines were constructed in different shops, one piece of work being done at one place and another at another, till at length in 1850 Mr. Howard erected the establishment on the corner of Chicago street and the Hamburgh Canal, where are now located the most comprehensive works in the United States for this class of manufacturing. In these works every department is complete and systematically arranged for the rapid construction of these machines, as well as the Ketchum Mower and Reaper combined. These machines have been so frequently exhibited that a word sketch of their external appearance is unnecessary, and we shall briefly allude to their particular merits, as demonstrated in their brilliant success. The Reaper and Mower have taken many first premiums. Of these we name New York, Pennsylvania, Ohio, Michigan, Delaware and Maryland State Fairs; American Institute, Franklin Institute, World's Fair, New York, and the $600 premium in Massachusetts. Various improvements have been made in the Harvester or Combined Machine, which renders it superior for cutting all kinds of grain, on all kinds of land; it will not clog, and is light of draft—it is claimed, one-fourth less than any other in use—and was

awarded the first premium as a combined machine by the Michigan, Ohio and New York State Fairs in 1858, and almost every year since in more or less of the State Fairs. We cannot at present further specify the improvements, and pass to the Mower, which is of easy draft, simple in construction, durable, without side draft, and possesses a feature peculiar to the Ketchum machine, to prevent clogging. These are but few of the superior points of excellence claimed for these machines, and their success is the best possible guarantee of the justice of those claims. The transition from Mower to Reaper is easy, without change of gear, with lessened draft, perfect balance and cutting arrangements, and extraordinary compactness.

The one-horse machine is very popular and satisfactory in its work, affording to the small farmer invaluable aid at a small cost. It weighs but four hundred pounds, and a man and horse can cut from six to eight acres per day.

The works of Mr. Howard have been from time to time enlarged to enable him to keep pace with the demand which comes from almost the whole habitable part of the globe. The works are now capable of running from eight to ten tons of melted iron a day, which gives facilities for doing a large business in the way of machinery work other than that manufactured in the works, and as also of making bolts, which he is now doing on a large scale. When these works are crowded they are capable of turning out from five to six thousand Mowers and Reapers annually.

BUFFALO AGRICULTURAL MACHINE WORKS.

It is now about fifteen years since Mr. W. A. Kirby commenced experimenting in a little shop on Scott street, where the above named works stand, in the way of making a small Harvester. His experiment ended in producing a machine which has proved a perfect success. We are heartily glad to record the fact; Mr. Kirby was poor, as all great inventors are apt to be. He got a patent for his invention, and we learn that it is yielding him quite a respectable income. He is one in a thousand so lucky. In 1857 a Company was organized, under the manufacturing law, consisting of George L. Squire, F. B. Squire, H. C. Squire and John Valentine, for the manufacture of Kirby's Harvester and other Agricultural Machines and Implements. These gentlemen came from Massachusetts. They saw that Buffalo was the town for them, and without any hesitation they purchased the lot and buildings on Scott street, now occupied by them, and all the adjoining land up to Hubbell's Stove Works; and they would buy that, if it was vacant ground. As it is they were obliged to purchase two acres on the corner of Louisiana street and the Hamburgh Canal, on which they have erected a large foundry and drying kiln for lumber, in order to accommodate their vast and increasing trade. The Kirby machine they make a leading feature of manufacture. Its success has not been equalled in the annals of invention as a perfect harvester. The sale of them has increased from the day this company introduced them in 1857, and the demand has kept on until now there are over thirty thousand in use; thus aiding thirty thousand farmers in securing their crops and doing the work of an army of one hundred and fifty thousand men. It is, perhaps, the best Combined Mower and Reaper in the world, which is something for Buffalo to boast of. We would like to give a full description of this machine, the medals it has received, &c., &c., but we have not the space. We will simply add, that in addition to its manufacture this company are also making Sulky Horse Rakes, Clod Crushers, Field and Garden Rollers, Horse Forks, Straw Cutters, Corn Shellers, and various other implements which are known among agricultural men as being valuable for their good qualities, thorough make, and high finish. This company have just secured the exclusive right for the manufacture, in the United States, of Power's Patent Sorghum machinery, consisting of vertical and horizontal mills, evaporators, and horse power. This branch of business has heretofore been conducted at the West, but the inducement offered by the above company has brought the business permanently to this city. We omitted to state that the iron used in this institution is mainly manufactured in this city. The number of hands employed aver age about one hundred.

There is still another shop of some magnitude, No. 520 Michigan street, manufacturing a Mowing Machine, carried on by Messrs. Fischer & Weiland. We visited the works, but the proprietors were out, and we could not learn with any satisfaction how many machines they are making. We learn, incidentally, that the works are prosperous, and that they were doing quite a large business for the little time they have been running.

WHITE LEAD.

Henry Roop is the father of the White Lead business in this city. Yes, we may call him the grandfather, as he has built all the works devoted to that interest in our town. A good many years ago Mr. Roop was in New York buying goods. By the by, we have few men like Henry Roop. If he were twenty years younger, he would show some folks how to drive a manufacturing business here; excuse the diversion. While in New York, he had occasion to visit Brooklyn on some business matters, (he is so addicted to business that you will never see him using time foolishly.) While there, somehow or another he found himself inside of a white lead factory. He looked through it casually, not with a view of learning the trade, but as a matter of curiosity. He saw the various processes through which the lead was put in order to produce the white paint of commerce, and while there or after his return to Buffalo, the idea occurred to him of starting a white lead works in this city. He knew nothing of the business practically, but his large intuitional powers gave him at once the theory of the science, so he went to consulting authors on the subject, reading chemistry and collecting what information he could other than from the actual practice of the art, and finally made up his mind that he would engage in the enterprise. "Solitary and alone," he put the ball in motion. His means were quite limited; (we shiver as we write it;) with what he had and what he borrowed of George Sherwood, amounted to the sum of $3,000. Only think, the idea of starting a white lead factory with a capital of that amount. A novice in the business, never inside of a factory but once in his life, and then but a few moments. To-day a man would be put in the mad house if he should cut such a caper. At it he went, however, and in 1841 he put up a little shop on the corner of Niagara street, at the point where Mohawk crosses that street, and in the summer of that year commenced to make white lead, and in the fall the first lead ever made in Buffalo was turned out of this factory. It was a fair article, considering the imperfect manner in which it was ground. He had two sets of stones driven by horse power, (one horse power, no doubt,) and it did not grind very fine. He ran the concern a year without failing. Then Mr. Sears and Mr. Saltar put in some means, and with Mr. Roop ran it a few months, when they took out their money and retired. Then Mr. Roop, with Mr. H. C. Atwater, went on with the work, Mr. Atwater having put $9,000 into the business. They began to make money, and after a little time Captain Sheldon Thompson, desirous of aiding the enterprise, added $20,000 to the capital, and G. T. Williams, Esq., having purchased a part of Mr. Atwater's interest, the name was changed from Niagara White Lead Works to that of Thompson & Company's Works.

In 1844, new and enlarged buildings were constructed on Jackson street and the Wilkeson slip. Just as they were completed, and all the machinery ready for operation, the great gale came and blew down and submerged the entire structure; the corroding house, and every thing, was in perfect ruins. That same fall they took what was left from the flood and moved it to the corner of Georgia and Sixth streets, where in ninety days they had a white lead factory in running order, turning out as good a quality of lead as any made in the United States. The concern made money as fast as any factory ought to, but Mr. Roop lost his health in consequence of being among the lead and inhaling the poisonous vapor, and had to leave it. It then passed into the hands of Capt. Thompson, his son-in-law, the lamented Edward S. Warren, who was so intimately connected with the manufacturing interests of Buffalo in after years, and Mr. E. M. Atwater, brother of H. C. Atwater, whose share he bought. Under the new aus-

pices the works were successfully conducted, making money all the time. Mr. Roop couldn't keep out of white lead. After a few years he recovered his health, and forgot he ever had the "painter's cholic," when, with Mr. G. T. Williams, he bought the land and built the present works now owned by S. G. Cornell & Son, on Delaware street. Thus we had two large white lead works running, and each had all they could do. Mr. Roop went west and introduced the Buffalo Company's article, and found large sales at almost all the lake ports between here and Chicago, at good paying prices. In the spring of the year 1852, Mr. Roop, we believe, went out of the business on account of sickness, having had a second attack of the "painter's cholic," when the concern was organized under the manufacturing law, Mr. Williams acting as president, and the present Mr. Cornell as secretary, with a capital of $100,000. At the same time, if our memory serves us right, they bought out the Thompson Works, and consolidated them in one, under the name of the Niagara White Lead Works. In 1861 the company dissolved. Mr. Cornell and his son took the establishment, and have carried on the business since that time.

Owing to the prominent position of these works upon one of our most beautiful streets, few citizens are unaware of their existence. In driving or strolling up Delaware street, after passing through the avenue, double-lined with shade trees, and past blocks of fine mansions and cosy cottages, at the corner of Virginia street the tall chimneys and flat walls of a large factory tell us that industry claims an aristocratic position among the moneyed and social interests of our city.

The premises extend 400 feet on Delaware street and 153 feet on Virginia, to an alley, and comprise within those precincts one of the largest, best constructed and arranged manufactories of White Lead in the United States, with a capacity of making 2,000 tons per annum. The success of the business for the past thirteen years is the best proof of Mr. S. G. Cornell's experience and knowledge of the business, under whose supervision the machinery of the works were all arranged.

The high standard of excellence is no doubt owing to the superior method of corrosion employed, and peculiar to these works, we believe. The yearly product thus far has been about 1,200 tons of white lead, in the manufacture of which between 800 and 900 tons of lead are used, besides from 25,000 to 30,000 gallons of linseed oil.

A prominent advantage possessed by these works, is an excellent spring, the water of which is remarkably soft and pure, is ten feet deep, and apparently inexhaustible. The buildings are of the most permanent character, and constructed with especial reference to convenience and economy of working. The main building is 40 by 60 feet, three stories in height, and the wing is 4 stories and 80 feet in length by 25 in width. Besides these buildings, there is the vinegar house, the corrosion house, engine house, and store house, all constructed of brick except the corrosion house, which is built of wood. The manufacture of vinegar is an important item in the business, requiring scientific accuracy and attention, and made from clarified spring water, in a separate building, 40 by 30 feet in extent, in which is a furnace to keep the temperature even at all times. Three hundred gallons daily are the usual product when the works are in full operation.

The corrosion house is a model structure of its character, and is 200 feet in length and 60 feet wide, now containing lead in process of corrosion, in tan bark, which has come to supersede all other articles for fermentation. The corrosion house is considered to be the most complete in the country, for the convenience of its arrangement.

The engine house adjoins the south end of the wing, and is 60 by 40 feet in area, and of two stories, the upper one being employed for some of the processes of manufacture. The engine is four feet stroke, 16 inch cylinder, and 60 horse power.

To the south of the engine house is the furnace, 60 by 25 feet, for melting the lead into buckles—thin plates of a peculiar form for convenience of the corrosive process in earthen pots. The main building, or mill, contains the usual machinery for making white lead, such as is used in the grinding, screening, floating, mixing and final preparations for the market. The wing contains 6 copper kilns and 1 stone kiln 160 feet in length, all of which are heated by the surplus and escape steam from the engine and furnaces. The works contain four run of mill stones, precisely like those used in flour-

ing mills, which grind the lead as fine as superfine flour. We cannot go into the minutiæ of our subject, and can only refer to the fact that every precaution possible is taken to guard the workmen from the noxious dust and fumes of the lead—a care for which the Company deserves the highest praise and credit. Thirty five men are usually employed, and owing to the excellent sanitary arrangements, are an able bodied and healthy corps of workmen.

It is now proposed to increase these works by the addition of lead pipe machinery, the invention of Mr. S. G. Cornell, and for which in 1851 he received a silver medal from the French Society "for the Encouragement of National Industry," founded in 1802, and the first ever granted to a foreigner. We have not space to describe it, but the fact that it is now extensively used, and is acknowledged to be the only *perfect* machine of its kind, is sufficient commentary upon its merits.

WOOD AND WILLOW WARE.

In 1850, Mr. F. P. Wood and his associates, commenced the manufacture of Pails and Tubs at Niagara Falls. In about a year afterward their establishment burned down, and in the winter of 1851 and 1852, they removed to Black Rock, (now North Buffalo,) where new works were erected, and a company organized under the general manufacturing law. This Company, for many years has been favorably known as "The Niagara Pail and Tub Company." The business is now conducted under the firm name of F. P. Wood & Co. As the business increased the works were extended, and about four years ago they introduced the making of Willow Ware, into which they have entered quite extensively, until it has become perhaps the largest establishment of Wood and Willow Ware in the State, employing from fifty to seventy-five hands the year round. The works are capable of turning out one thousand pails and two hundred tubs daily. Their premises embrace about two acres of land, which are covered with workshops, lumber sheds, &c. The willow is grown in great abundance on Grand Island. They have about $30,000 invested in buildings and machinery. The market for their goods is principally at the West, besides supplying a large local demand. For the last fifteen years, during all the fluctuations of the times, this concern has kept steadily along, gaining slowly but surely; looking ahead to the prospects of the future as encouraging, they have already in contemplation an extension of their works during the coming season. Messrs. F. P. Wood & Co. may be called the pioneers of this kind of enterprise in Western New York. By their shrewdness, perseverance and thorough knowledge of their business, a ripe harvest is opening up to them. They have a large store and sales room, which the Company own, at No. 88 Main street. The process of making pails at the rate of a thousand a day, will be very interesting to those who never witnessed an operation of the kind. To such, a visit to the works will well repay the time spent in the examination of the mode in which pails and tubs are made.

FRAME WORKS, LOOKING GLASS AND PICTURE FRAMES, &c.

Mr. George D. Teller may be classed among our oldest inhabitants. Time out of mind, almost, he has been in the Picture Frame and Looking Glass business, either alone or with partners. Some two years ago Mr. Bradford (of Blodgett & Bradford) associated himself with Mr. Parker for the purpose of continuing the Looking Glass and Picture business, succeeding Mr. George D. Teller at 172 Main street, while Mr. Teller retained the manufacturing in the Court Street Market Building, of Frames, Mouldings, Looking Glass Frames and Rail Road Bulletin Boards, from which manufactory two-thirds of the United States Rail Roads are furnished. During the year Mr. Teller associated with him Mr. John Corning, well known to all Rail Road men, after which their business steadily increased; while Messrs. Bradford & Parker, after the first year, had accumulated the largest stock of French Plates, (of direct importation,) Pier Mirrors, Pictures, &c., in Buffalo, with an extensive Gilding Shop constantly crowded with work, occupying the three remaining stories of the large store 172 Main street, for manufac-

turing of Picture Frames, Mirrors and Mouldings. Feeling the necessity of more room wherein to manufacture than the five story building, and knowing that Messrs. Teller & Corning's manufactory could, with increased facilities, supply both firms, it was suggested that the two unite their interests under the firm name of Corning, Bradford, Teller & Co., which was approved 5th of February last. With increased facilities, and the large Sales Room for Mirrors, Pictures, Frames, &c., at 172 Main street, Messrs. Corning, Bradford, Teller & Co. are meeting with a success that is very complimentary to themselves as business men, and attests the superiority of the work done at their establishment. They now occupy the main part of the Niagara Market as a manufactory, and are constantly filling large orders for Frames for Rail Road Bulletin Boards, Mirrors, Pictures, &c. The manufactory comprises, besides a large show room and office, seven large rooms, in each of which is done some particular branch of business. We propose to give a brief description of the separate branches of work, and the process by which such beautiful specimens of frames are made. First, in a large room, seventy by thirty-three feet, the lumber is planed, sawed and moulded into various shapes, for frames of every kind, by means of the proper machinery. The mouldings are next taken to an adjoining room in which they are enameled, by a process that is very interesting. After the enamel is dry, the mouldings are grained, varnished and polished, in the spacious room set apart for this purpose. It requires the nicest workmanship to produce such exact imitations of rosewood, as are the frames made at this establishment. The mouldings, by means of machinery, are transformed with great rapidity and precision into frames in another room. The gilding room is another spacious apartment, and here the larger and better styles of frames are gilded. Here, also, the lettering in all styles of glass headings for Rail Road Bulletins, Business Advertising Cards, etc., is done. A large room has been lately fitted up with machinery for making oval, arch-top and round corner frames. This is the only establishment in Western New York where frames of this description are made, and the necessity of sending to New York for them is no longer felt.

Messrs. Corning, Bradford, Teller & Co. receive large orders from the West for frames of these styles. The lower story of the east wing and the rotunda are used as store rooms, and here the finished work is packed up preparatory to its shipment all over the country. The machinery is driven by a splendid steam engine of fifty horse power.

Messrs. Corning, Bradford, Teller & Co., are prepared to fill all orders for frames of any desired description, and they give close attention to every department of their business. They give employment to seventy persons, and turn out an immense amount of work. Their establishment is really worth visiting. In its systematic arrangement and in the perfection of its details it is a model; and we trust that the proprietors will meet with the full measure of the success they so richly deserve.

W. B. Olver, in the Arcade building, in the same line, is fitting up spacious rooms for the manufacture of Picture Frames and Looking Glasses, and for the finer work in Gilding in its various branches.

JAPANNED AND PRESSED TINWARE, TOILET SETS, ETC.

Sidney Shepard & Co. were among the first to manufacture this description of wares in this country, and their manufactory is now one of the largest and most complete. In looking through their new "Illustrated Catalogue" of goods and wares, we were astonished at the variety and extent of their productions, and determined to visit their works in order to carry out our design to *represent the "Manufacturing Interests of Buffalo;"* accordingly we have done so.

The factory of Messrs. S. & Co. is situated upon Clinton street, and is a large three story building about fifty by one hundred feet. We first visited what they term the "cutting room," which we found filled with a great variety of machinery and busy operatives. Here is the powerful steam engine which drives the various machines throughout the building; lathes, in which dies for cutting, stamping and forming all

the various patterns of tin work are made; steam, foot and hand power presses used in cutting up tin plates; spinning lathes for forming sheet metal, and hundreds of steel dies of all patterns, which have cost thousands of dollars.

We next entered the "stamping room," where we found several drop presses with ponderous hammers, worked by steam power, forming the tin blanks which had been cut in the cutting room, into plates, pans, wash bowls, patties, &c. Here are several tons of iron dies turned and moulded in the shape of the various articles of pressed or stamped wares.

From this to the "tin shop," a large room on the second floor—every part filled with workmen, and all the appurtenances of a tin shop, with piles of bright tin ware of all patterns, large and small, upon the floor and benches—finished and being made—a beehive of industry. In an adjoining room, upon the same floor, we found machines driven by steam for forming tin cans for fruit and spice dealers, candle moulds, blow horns, &c. Ascending to the third story, we entered the "blacking box shop," where we found steam machinery sufficient to turn out 10,000 blacking boxes per day. Upon this floor, are three large baking kilns used in japanning. The wares made in the shops below are brought up here and painted, or japanned, and then removed to the papering room, where they are papered and labelled ready for sale. Messrs. S. & Co. are largely engaged in the manufacture of Toilet Ware, Water Coolers, Fancy Tea Caddies, &c., and we are told that their wares in this line are superior in quality and style to any in the country. A visit to their "ornamenting" rooms has convinced us that no better quality or greater variety or more beautiful styles can well be made, than we saw there.

The enormous consumption of tin plates in our city for the supply of makers of children's toys, Japanned wares, &c., &c., is such, that the idea suggests itself that here we ought to have a Tin Plate Manufactory. Tin plates, as is generally known, are nothing but sheet iron covered with pure tin, applied in the melted state. We can make the best sheet iron here. Tin, in the pig, is produced largely in the East India Islands; very great quantities of it are taken to England in American ships, there used to cover English sheet iron, and then the resulting tin plates exported to the United States. The manufacture is one of the simplest, and it is a shame that we do not produce our own supply. It is said that the few large houses in the United States who control the importation of tin plates from England, and have done so for a long series of years, have taken care that in all adjustments of the tariff tin plate making should not receive protection—to that influence is due the low rates of duties on that article. In regard to most other English productions some of these dealers in tin plate, it is said, favor the largest protection.

HOUSE FURNISHING GOODS, PLATED WARE, ETC.

Jewett, Church & Co. are successors to John C. Jewett, who was about the first to open this system of business in Buffalo, as late as September, 1849, which has grown up into a large branch of manufacture. The sales rooms for the various goods in this line are at 259 Main street, extending through to Washington street. Mr. John C. Jewett, a member of the firm, is a large manufacturer of bird cages, toilet ware, filters and coolers, refrigerators, parlor coal vases, coal hods, bathing apparatus, ice pitchers, plain tin ware, &c., &c. He keeps constantly about thirty hands employed in the manufacture of this style of goods. His works embrace Nos. 253, 255 and 257 Washington street. The main building is sixty-two feet front by one hundred and fifty feet deep, and four stories in height. The first floor is used for painting, graining and finishing the refrigerators; the front part of the second story is occupied as an office and sample-room. In the latter are displayed specimens of each article produced at the establishment; and we cannot too highly commend the taste and skill displayed, particularly in the ornamentation of these samples. It is really beautiful. In the rear of the sample-room is the packing-room, where everything is carefully prepared for transportation. This apartment is provided with a very convenient hoisting apparatus for loading and unloading goods. Back of this again, on the same floor, is a room for storing toilet ware, plain ware, bathing apparatus, water coolers and filters, &c.

In the third story, the front room, forty-four by sixty-two feet, is used for storing stock or raw material—consisting of large quantities of sheet zinc, wire, galvanized sheet iron, etc., etc. In the rear of this is the tin work shop, thirty by one hundred feet, where the various metallic articles are fashioned from the crude material, by the aid of labor-saving tools and improved machinery, the latter being driven by a powerful steam engine.

In the front part of the fourth story is the ornamental painting room, forty-four by sixty-two feet, and a visit to this will amply repay one for the time spent. In connection with this are drying or baking kilns, for the purpose of hardening the enamel and bringing out the beautiful gloss peculiar to these wares. In the rear of these apartments is a room, thirty by one hundred feet, for storing bird cages—and we need hardly remind our readers that these are among the most elegant articles of the kind produced in this country.

Adjoining the main building, in the rear, is an addition, two stories high, thirty by thirty feet, where the wooden cases for the refrigerators are made from the rough lumber. The factory is complete in all its appointments, and it is the pride of the proprietor that all articles are made in the best possible manner, and out of the best materials. His object is not to get a certain amount of his manufactures off his hands, but the more laudable one of giving entire satisfaction to purchasers and preserving the reputation he has acquired.

The trade, east, west, north and south, is supplied on liberal terms, and such is the demand for the wares of all desriptions manufactured by Mr. Jewett that, with all his facilities, he finds it a very difficult matter at some seasons of the year, to fill the orders received.

BRICK MAKING.

A wonderful invention has been lately made in this city by Mr. John Steel, for the manufacture of pressed brick from pure clay without a crack or check, and so simple in its construction as to recommend it to general use as a substitute for any and all brick machines known to the country. By this process of manufacture, the air and moisture are expelled from the clay by means of perforators, which enter the mould when filled, and are suddenly withdrawn as the brick receives its final pressure; consequently, every brick burns perfectly, without cracking, checking or warping, and every brick is perfect when it comes from the kiln.

We present it to the public as a great mechanical discovery, of incalculable benefit to all interested in erecting structures where finish and durability are required. The machine has been in operation in Buffalo for three months—its value and capacity fully tested—its success perfectly demonstrated. It is now in operation in Jersey City. A company has been formed in New York City for the manufacture of these bricks, of which Mr. L. C. Woodruff of this city is President. Early in the spring a company is to be formed in this city for manufacturing the article with this machine. Those who have examined the process by which bricks are made, say that this machine will produce a revolution in the brick making business in the United States in a short time. The valuable clay beds that have been discovered in this neighborhood, give to this point additional advantages, not only for the manufacture of all kinds of brick and tile, but as a locality where must come eventually large pottery works. It shall be no fault of ours if such an enterprise shall not be enticed to settle here. We intend to keep hammering away at it till we enlist some enterprising capitalist in the work, if such an one is to be found, who would like to perpetuate his name by building up one of the most valuable, as well as profitable institutions in the land.

POTTERY.

While speaking of fabrications of clays, we cannot refrain from further allusion to the subject of the " Ceramic " art, by which term the art of pottery is sometimes known. It has recently come to our knowledge that a most valuable deposit of the rare clay

from which the celebrated straw colored "Wedgewood" ware is made, has been found in our immediate vicinity. An Englishman discovered this clay while examining the neighborhood of our city, for materials for his use, in an establishment which he contemplated erecting here for making ornamented floor tiles. Other clays suitable for making common pottery, and the kind known as Stone China, are found in various localities within convenient distance.

In another place we stated that kaolin and feldspar were found in great abundance in Vermont. Both of these minerals, which are used in the making of porcelain, are found at various localities in the primitive range of mountains which extend from the boundary of Canada into Georgia. At Brandon in Vermont, kaolin of the best quality is extracted from the neighboring hills. So far, it is used in connection with hematite iron ore to make paint, and also used for the purpose of adulterating sugar and sugar toys, and in the paper hanging manufacture, a business that ought to be carried on in our city. To one who knows anything of the pottery business of England, it will be apparent that we could bring all the pottery making materials together here, as cheaply as it is done there. Our fuel, which is another important item, will soon reach us by railroad from Pennsylvania, at a very low price.

Some account of the origin and progress of the art of pottery, will perhaps interest our readers, and possibly may have a happy influence in introducing the manufacture here. The potter's art is the oldest of all the arts, of which we have knowledge. Ancient articles of pottery, exhumed from their long forgotten resting places, "have been compared to the fossils of animals and plants, which reveal to the educated eye the former conditions of our globe." The ancient Egyptians practiced the art. We find remains of earthenware in the tombs of their earliest dynasties, and the potter's wheel is represented on their ancient sculptures. The Greeks, as far back as the heroic age, formed vases and other articles of earthenware, which are even now, models of beauty and simplicity. We are all familiar with the beautiful wares of the Etruscans, made while the Romans were yet a rude people.

The art of making ornamented pottery was lost in Europe, soon after the fall of the Roman Empire. The Moorish conquerors of Spain brought it with them and revived it there; it was confined to Spain until near the fourteenth century, about which date it was transferred to Italy, which country was the first in Europe to emerge from the darkness of the middle ages—a result due mainly to their republican form of government. Pottery wares were made in Germany as early as the thirteenth century. Catharine de Medici brought Italian potters with her to France, who introduced the art into that kingdom. In Holland, the chief seat of the manufacture was at Delft; we all (the old ones) recollect how crockery wares were called Delft ware; these wares were imitations, to some extent, of the Japanese and Chinese porcelains, in their grotesque ornamentations; their trade to the east controlled this style. The first establishment for making fine earthen wares in England was erected in the reign of Queen Elizabeth; gradual advances were made in the art till 1730, when Josiah Wedgewood, the son of a potter, made his great improvements in forms of his ware and in the materials he used, which made have him famous, and form an epoch in the history of the art. The small district in Staffordshire, where Wedgewood built his works, now gives employment to 100,000 operatives, and supplies half the world with earthen wares and porcelains. For a long time after the introduction into Europe of Chinese porcelain, vain efforts were made to imitate it. A German iron master, named Schnorr, accidentally discovered a white earth, which was for some time used as a hair powder; some of it came into the possession of a German named Böttcher, who had for a long time been making experiments with various clays, with a view to producing porcelain; the application of the white earth so increased the weight of Böttcher's wig that he was induced to examine it closely; the result was, he ascertained it to be the long sought for material for making porcelain. Out of this discovery grew the Dresden porcelain manufactory. Every effort was made to keep the secret of the discovery; the workmen were sworn to silence; the exportation of the "white earth" forbidden, but one after another, the monarchs of

Europe bribed the workmen and got them away, so that in the end every king had his porcelain factory.

For a long time the Dutch supplied Europe with porcelain from China and Japan: Those nations have manufactured it from remote antiquity. Vases of Chinese manufacture have been found in the tombs of Thebes; even now they excel all other nations in the excellence of some of their wares. This idea occurs, why cannot we import workmen via California, from China? and thus master the hidden mysteries of this guild.

In England the manufacture of porcelain was firmly established by George Second, who imported workmen from Saxony; gradually, and with the dogged perseverance which is a characteristic of the English, they have gone on, and now it is one of their great industries. The French China is esteemed by Americans as the most elegant and delicate ware, the English as the most substantial. A friend, who, when in England some years ago, visited the pottery district, tells us that the people employed in the earthenware factories there, are the poorest paid artizans in England; that every meanness and parsimony is practised by the master potters—in many works the very same apparatus is employed which is depicted on the old sculptures of Egypt. In some of the pottery works he saw poor old women grinding out the remnant of their days in turning the rude potter's lathe; children of tender years, who ought to have been in school, toil in them for the merest pittance.

The most bitter and obstinate free trade disciple, would hardly say, that we, who have lying around us, in the greatest abundance, all the potter's materials, should let them remain neglected and unwrought, and still continue to import so common a necessary as pottery wares; or that we should put feeble old grandmothers to work and utilize their expiring energies for the least trifle, for the lack of a protective tariff, which would enable us to employ able bodied workmen and workwomen at good liberal wages. No, a denial of protection to a manufacture whose operatives are so poorly paid abroad, is equivalent to saying that we will not enter into it, for no man is so shameless and brutal as to advocate any system so degrading to his countrymen as one which would reduce them to the condition of the brute beast, which labors for the bare means of living.

To be sure, the item of the freight on so bulky a commodity as pottery, and that of breakage, does afford some protection, but in view of the fact that Potentates and States, in all times, have found it necessary and profitable to foster this, as well as many other manufactures in their infancy, by tariffs and bounties, surely we who are striving for independence in all things, material and political, will copy their good example, and refuse to be led astray by visionary ideas of free trade, which on trial will be found anything but free, and in the case of pottery making, it is to be feared mean no trade.

Doubtless it will be interesting to say something of the mode of preparing the materials for making pottery wares. Kaolin, the clay used in the manufacture of porcelain, is a product of the decomposition of igneous rocks of primitive origin, and as it always proceeds from a feldspathic rock, is most generally yielded by granites, very rich in feldspar, sometimes by the prophyries, rarely by the trachytes. In these rocks the feldspar has been more or less altered; in some the silicate of potassa has entirely disappeared, while in others a small quantity still remains. To separate these fragments, as well as the quartzose particles, the material is washed in a vat; as the kaolin is generally friable, this operation is easy. The material is mixed with the water by means of paddles moved by machinery; the largest particles fall to the bottom of the vat. The liquid mud is poured into a second vat below the first, where it is allowed to rest a few moments that the feldspathic and quartzose particles may settle; it is then transmitted to a third vat still lower, when the water is allowed to settle a long time and to deposit all the clays it holds in suspension; lastly the clear water is drawn off, and the argillaceous mud at the bottom of the vat is dried. In most cases, in order to convert most kinds of kaolin into porcelain clay, the addition of a certain portion of powdered feldspar is required; then all is wet up and mixed, and for some kinds of ware a portion of quartz is added after it has been powdered. No great mystery so far; mould-

ing the ware, ornamenting it, glazing and burning it are all simple, yet delicate processes. The making of common earthen wares, such as is termed Stone China, and the still commoner, is free from difficulties. It is a marvel that no one has yet brought the business here. Some Buffalo man must do this thing; it will make him famous and rich, and he will make himself a public benefactor. It does appear to us that after iron, the pottery business is one of the most appropriate to this city; one that will tend greatly to its aggrandizement. The great manufacture is as it were a waif—sure to be taken up in earnest in some locality, and very soon. We intend to urge its adoption here, as opportunity is afforded us.

PAPER MAKING.

The Niagara Falls Paper Manufacturing Co., Mr. L. C. Woodruff, proprietor, have two warehouses, Nos. 24 and 26 Pearl street, Buffalo, with a capital stock of $200,000, and an assorting house at the warehouse in Buffalo where are employed fifty hands in preparing stock for the above paper mill. This mill uses, in the manufacture of printing paper, about two thousand tons a year of straw, and about the same number of tons of rags. The mill employs eighty hands, uses three thousand cords of wood a year, and $80,000 worth of chemicals, which are nearly all imported direct from Europe by the proprietor. This may properly be classed as a Buffalo, institution. The product of the mill is all used by the New York *Tribune*. The money, except that used in payment for labor, wood and straw, (which is distributed through Niagara County,) is disbursed in the city of Buffalo. The *Tribune* has been supplied, for its weekly and semi-weekly, by the Niagara Mills for about fifteen years. The *Daily Tribune* is occasionally printed on it. A water power of such magnitude, of such purity, with the great lakes as a feeder, should be a source of profit to the proprietor, wealth to the country, and a safe reliance for a daily paper which can brook no short supply.

MUSICAL MANUFACTURES.

In this line, Buffalo stands among the foremost. There are nearly four hundred persons employed in the musical manufactures of this city. The principal establishment is that of Messrs. George A. Prince & Co. During the many years that this firm has been honorably known to our citizens, over 40,000 Instruments have been manufactured, and the fame of these instruments has reached to every civilized part of the globe. They are to be found not only in all America, but also in Europe, Australia, India, and even the Sandwich Islands. This is no exaggeration. Conceive, if possible, those forty thousands instruments assembled together and all playing at once. Such a choral effect would arouse the famous somnolent seven, and gladden the hearts of marble Apollos. But, to drop rhetoric, the manufactory of Messrs. Prince & Co. is one of the finest industrial establishments it has been our pleasant duty to witness. Its size, the neatness and order, and the character of the business, all tend to enlist deep interest.

In the first place, the premises occupy the northern portion of the block bounded by Niagara, Seventh and Maryland streets, with a frontage of 150 feet on the two former and 264 feet on the latter street. The manufactory is upon the corner of Seventh and Maryland streets. It is in form like the letter L, with a frontage of 270 feet on both these streets, and 40 feet in breadth, and five stories in height, the basement included. The building is a handsome brick structure, built by Prince & Co. a few years since for the particular uses for which it is employed, and is, of course, admirably arranged internally. We will begin at the base. In the lower story the coarser work for the instruments is done, such as the iron and heavier wood work. There are two planers, two saws for scroll or fretwork, an iron lathe, emery belts and wheels, and other machinery. The iron used is malleable cast iron. The process of its manufacture does not appropriately come within the scope of this article, and we are obliged to pass it by, as well as other interesting matters suggested by our visit.

On the next floor are the offices, suites of rooms for the tuners, the reed shops where the reeds are made for the Melodeons, mostly by machinery of a peculiar character,

and especially designed for the purpose. On this floor also is the fly fishing room, where the instruments are put together and finished up; the packing room, and sales or sampling room, etc.

The third floor contains the action making and bellows shops and store room for stock and completed parts. In one of the store rooms we saw the splendid Instrument which was exhibited at the World's Fair at New York. The cases of solid rosewood, elaborately carved, and are very beautiful, though the improvements made in the interior render the newer Instruments superior to it. Upon this floor are rooms for the storage of ivory and such small but valuable materials used.

The next story is used for the case room, where the cases are made, and in which are the caul boxes and presses for veneering. The key room is where the Key-Boards are made, and ivory and ebony prepared and polished. This work in ivory is interesting, and requires great dexterity.

The fifth and last story is the staining and varnishing department, where the rosewood cases are finished and polished with pumice and rotten stone, and finally with the naked hand, elbow grease giving the finest gloss.

Descending from this height to the ground, we find the engine room and drying kiln detached from the main building. The engine room is really elegant and is kept neat as a parlor. From the boilers about 12,000 feet of steam pipe radiate heat throughout the entire premises, doing all the glue heating, and so forth, besides warming the shops, No other fire than underneath the boilers is allowed about the concern, under any circumstances. As an evidence of the care taken to guard against a conflagration, we refer to the arrangement in the box for conveying the shavings and debris from the different floors to the engine room for consumption. In case this debris should get on fire, it could not burn but a few moments before it would burn off a small cord, and open a perfect deluge of water upon the fire.

The lumber, prior to going into the shops, is thoroughly kiln-dried, a process ensuring perfect Instruments, and which will stand any climate. If there is a crevice in a board, it is cut out and jointed up. Outside, there are piles of lumber in the open air and under sheds. The woods used are principally ash, maple, cherry, white and basswood.

Having rapidly sketched the more salient objects of the building externally, and internally, we have now time to revert to some points we have purposely left untouched until now. There were stores of ivory, ebony and rosewood, and the other materials employed in the Instruments, great rooms full of work in different stages of completion, and immense piles of instruments already put up in neatly varnished cases for shipment. There are two hundred men usually employed in this the largest and finest Melodeon Manufactory in the world, whose business extends to the extremes of civilization, wherever music is known, and Instruments are desired to produce harmonious sounds.

When the Reeds come from the factory, they pass into the hands of the tuners, who file them to the proper tone and fit them to the instruments. Messrs. Prince & Co. make nine sizes of Instruments. The cheapest Instrument is just as well finished as the best, the difference being simply in their capacity. In volume and purity of tone they have no competitors, and at the various exhibitions of industrial products, invariably take precedence and the prizes.

The Organ Melodeon is a splendid Instrument, with two banks of Keys, one and a half octave Pedals, and five sets of Reeds, making an Instrument of unequalled power and tone. It is far finer, purer in tone, and stronger than the Alexandre Organ so much lauded when Thalberg was here. From the smallest and cheapest, up to the very best, the same care is given to perfect the Instruments. In the valves, some trouble has been experienced from the use of India rubber, which in a few years becomes gummy and sticky; but the valves are now dressed with felt and on that with a lambskin prepared expressly for the purpose, and which obviates the old difficulty. The Instruments range from one to eight sets of Reeds, the latter being quite equal to a large organ. The cases are exclusively of rosewood, and a Melodeon forms an elegant

article of furniture. To speak further of their merits would be only to reiterate what everybody knows; but their diffusion is actually wonderful. It is seldom that an Instrument attains such a world-wide celebrity and dissemination, owing, no doubt, to their pure tone and careful manufacture, enabling them to withstand the extremes of climate—the cold of Russia and the heat of Calcutta. This Buffalo enterprise is one to be proud of, both on account of its results and its intrinsic interest and extent. The first law of heaven is implicitly observed within the walls. "A place for everything, and everything in its place," is evidently the rule, and consequently such a large establishment moves on systematically and regularly.

ORGAN BUILDING.

Mr. G. House was the first to engage in this business in Buffalo. He commenced in June, 1846, to manufacture Church Organs. The first large one made was for St. John's Church, at a cost of about 4,000 dollars. He has also finished instruments for churches in Rochester, where there are now ten in use, and as many more for churches in this city, including St. Joseph's Cathedral, St. Paul's, the First Presbyterian and other churches. He has also furnished instruments for churches in cities and towns in many of the Western and Southern States, from whence he is constantly receiving orders for his work. His business in that line has gradually increased so as to compel him to enlarge his factory on Clinton and Elm streets, where he is now fitting additional rooms with steam power, sufficiently capacious to keep pace with the increasing demand for his organs. He has now a sufficient number of hands in his employ to enable him with his increased facilities for turning out work, to execute orders nearly as fast they come in.

PIANO FORTES, FLUTES, DRUMS, ETC.

Buffalo has several large factories, devoted to the manufacturing of Piano Fortes, in which line she is receiving testimonials for producing some of the finest toned, as well as highly finished instruments in the country. We would mention particularly the establishment of De Vine Brothers, on the corner of Niagara and Maryland streets. Their reputation has become established in this city, and wherever their instruments have been sold, for turning out a superior article in that line. They give employment to about forty skilled workmen, and have been increasing their works from time to time until they now compare favorably with the largest in that line of business.

There is also the firm of Kurtzman & Heinze, corner of Niagara and Staats streets, doing a good business, and employing about twenty-five men, in the same line. Their instruments are also justly celebrated in the market as being of the first order in tone and finish.

The Boehm Flutes, made by Messrs. Sheppard, Cottier & Co., under the supervision of the eminent flutist, Mr. Cottier, rank very high among performers on that instrument.

Mr. Blodgett has for many years had quite an extensive manufactory of the various styles of drums.

LETTER PRESS PRINTING AND BOOK BINDING ESTABLISHMENTS.

Buffalo has always ranked deservedly high in the character of its Job Printing, and as this branch, with the Newspaper Printing and Book-Binding, now gives employment to over five hundred hands in the various branches, we think it deserving an especial chapter in the manufactures of our city. In 1845, Messrs. Jewett, Thomas & Co., of the Buffalo Commercial Advertiser, introduced their celebrated Chromotypic Printing in a style hitherto unequalled in this or any other country, and for years built up a reputation for large Colored Printing in a style altogether original.

Latterly, great improvements have been made in colored and illuminated work for Rail Roads, Express Companies, Business Firms, Manufacturing Establishments, &c.

Perhaps there is no city in the United States where as splendid specimens of this kind of printing is done as in Buffalo. The ingenuity of the best artists has been taxed to the utmost limit in designing illuminated cards, posters, bills, &c., for various railroads and other parties, and yet we see every day something new and attractive from the press of our city.

Within the past three years the Courier Printing House of Joseph Warren & Co., have added very largely to their facilities for printing Illuminated Rail Road Cards, Show Posters, Streamers, &c., until they have now one of the largest and most complete establishments for that style of printing in the United States. The presses, wood cuts, designs, and other implements in this department, have been laid in at a cost of over $50,000. That they excel in this line of the art, is evidenced in the fact that in every part of the United States may be seen specimens of their Rail Road Cards, Mammoth Colored Posters and Show Bills for Minstrel Bands, Lecturers and other Traveling Organizations. There are over two hundred Companies, of one kind or another, who now order their immense Illuminated Posters, Stretchers, and other attractive Bills, Cards, and Programmes, from the Courier establishment. This line of work has now become a feature in the Job Department, where are engaged a number of the best designers and engravers on wood and metal to be found in the country, who are constantly producing those costly show cards, likenesses, figures, embellished letters, and numberless other odd and strange devices for advertising the Troupes and Bands that are constantly traveling over the country. Large numbers of hands are also required to paste, fold and ship this work to all the important localities in the Union. The business is simply immense, and growing daily. In the Letter Press Department, Messrs. W. & Co. display excellent taste in the perfect finish of their work, which will compare favorably with that done anywhere in the land.

The Franklin Printing House of Mr. C. F. S. Thomas is perhaps as compact and complete in all its parts, as any printing house in the United States. It might be considered out of place in this work, to go into full details of the amonnt and style of work done in his establishment. We can say, however, with propriety, that Mr. Thomas is one of the oldest members of the craft in this city, and that to his enterprise and taste is due much of the credit Buffalo has received, and is entitled to, as having for many years turned out better Jobs of Printing and Letter Press Work than any city in the country.

Rockwell, Baker & Hill are three hard working, deserving men, engaged in the same line. By close attention and enterprise, they have in the past few years built up a profitable business, and are now finishing off on Washington street two stores, the upper parts of which will be occupied by them and the bindery of Mr. Jones, and devoted to the printing and bookbinding business. They are doing a large share of railroad work, such as cards in colors after designs gotten up by themselves, insurance and book work, fancy and plain letter press printing, and all manner of work in the line of job printing. Their house is constantly full of work, which is a good omen that their styles suit the public. We are tolerable good judges and take no risk in saying that some of their specimens of large colored card work will compare well with any printed in this city.

The Commercial Advertiser Printing House is now the oldest in that line in Buffalo. In its early days it gave a reputation to the town for the best printing in the land. As we have already mentioned, it inaugurated the celebrated Chromotypic style, out of which has grown the beautiful colored work now seen in the shape of cards and frame show bills for Railroads, &c.

The Morning Express Printing House is also largely engaged in job printing in all its various branches. Messrs. Clapp & Co. are about removing from Main street to Swan, where they have taken a long lease of the store lately occupied by Mr. Chas. Coleman, as a paint and oil store. This they are fitting up with reference to newspaper printing and general job work. It has been stated that new partners are about to join with Mr. Clapp, which will give additional strength and vigor to the concern. Of the knew arrangement we know nothing, except what was said in a newspaper of this city some days since.

The Evening Post, of Geo. J. Bryan, although a smaller sized paper than some printed here, claims that it always pays one hundred cents on the dollar. George has been through some rough squalls and seen some tight times, but he has weathered all the squalls and squeezed through all the tight places, and is now in good circumstances, prints a sprightly, independent paper, pays one hundred cents on the dollar, owes no more than he can pay any moment, and ought to be a happy man, if there is any happiness enjoyed in being out of debt and running a daily paper.

Besides those enumerated above, there are the printing establishments of Young, Lockwood & Co., J. S. Leavitt, G. W. Reese, and several minor establishments, in all doing quite a large business. There is also the ticket printing and railroad furnishing establishment of Mr. Geo. Bailey, doing a large trade in ticket printing and numbering, as also furnishing cabinets and other furniture for ticket offices. There are also the German printing houses of Brunck, Held & Co., and Philip H. Bender, each doing a good business.

In the Book making line, Mr. J. M. Johnson has made one of the most successful attempts to compete with metropolitan establishments we have to record. He has, probably, as complete a bindery in all its parts as can be found in the State, and is doing a very heavy business in printing and binding School Books for the New York market, as well as for home publishers, while his Pocket Books and Diaries have become standard articles, and admitted to be the best manufactured. Large sales of them are made in the Eastern as well as Western markets.

We will not forget to mention the extensive Book Bindery of Mr. J. L. Chichester, which occupies nearly the whole upper part of two stories over the Franklin Printing House. Mr. Chichester has, within the past few years, extended his business into quite an extensive establishment, with facilities for doing all kinds of work in the best manner, being a practical workman in all its branches, and giving it his own attention and supervision. He has also perfected an improvement in Ruling Machines, which gives him increased facilities.

The Book Bindery of Mr. Albert Jones, over the printing house of Rockwell, Baker & Hill, has grown into an extensive concern in that line. With the increase of printing in the last few years has come a corresponding increase in binding and other work in the binding line, which now gives additional employment to a large number of hands. Mr. Jones is a finished workman himself, and the jobs turned out in his bindery are as good specimens as may be found in any similar establishment.

There is also located here the extensive Type Foundry of Mr. Nathan Lyman. There are also three quite extensive Electrotype and Stereotype Foundries. And the Case Making Factory of Mr. E. Roberts is now well known all over the United States.

RELIEF LINE ENGRAVING.

The Relief Line Engraving establishment of Messrs. E. R. Jewett & Co. should be mentioned in this connection. It may not be generally known that for many years this firm has furnished the line engraving for the Patent Office Reports, which, until Messrs. Jewett & Co. took the contract, was given out to numerous engraving establishments in the principal cities in the United States. It is now all done in this establishment, where are employed sufficient hands to produce the engravings as fast as they are wanted at the department. They are so far behind in printing at Washington, that the Reports for 1863 are not yet published. Although line engravings for the work, numbering 531 pages (large octavo size) have been furnished, and are now in boxes in the Government Printing House at Washington. The engravings for the Report for 1864 are all finished, and number 603 pages. It is estimated that the engravings for the Reports of 1865 will make some 800 pages. This style of engraving is very beautiful, as will be seen in the specimens that are sent to Washington for revisal before printing. A number of copies of books of the engravings are published every year in advance of the Government publication, which are taken by the different Patent Agents and others in the principal cities.

We ought not to bring this notice to a close without paying a slight tribute to Mr. Jewett, who has been for twenty-five years identified with the printing art in Buffalo. He will not take it unkindly, we know, when we say that he came here poor, and for a long time struggled hard and manfully against a sea of adversity, when at length fortune smiled upon him, and from that time to the present he has been one of her favorites. He has not been unmindful of the fact, as he has made ample return in his public spirit and enterprise, of which the town gives proof in the blocks of stores erected by him, as well as other progressive examples in the business which he has zealously followed for so long a series of years. Even now, while devoting himself to the pleasures of an agricultural life, employing a part of his time in beautifying and perfecting his acres of land, still he is actively engaged in prosecuting in this city a manufacturing business, of an importance little known to the outside world, but vastly creditable to the city. The Relief Line Engraving style of printing is somewhat new, and when we take into consideration that the plates on which the engravings are cut can be printed with as much rapidity as we print book work on a cylinder press, we see the great advantages it possesses over copper plate or steel engraving, and when we see how nearly it resembles steel plate engraving, we are astonished at the progress that has been made in a very few years. Copies of the work produced by Messrs. Jewett & Co. were submitted to the U. S. Commissioners of Patents, the Superintendent of Public Printing at Washington, the Examiners in the U. S. Patent Office, and others, who all pronounced it the handsomest and cleanest specimen of work ever submitted for inspection. It is very creditable to us that Buffalo has done some of the best work the Government has ever had. It is also creditable that for this reason the plates of designs for the Patent Office Reports and much other Government work comes every year to Buffalo, because it is better done than it can be elsewhere.

Mr. E. R. Jewett is also engaged in the manufacture of Envelopes, having sufficient machinery when in full operation to turn out finished from three to four hundred thousand daily. He is now filling an order of five millions for the Western Union Telegraph Company.

LITHOGRAPHIC PRINTING, ENGRAVING, CARD AND MAP MOUNTING, &c.

Sage, Sons & Co. are the oldest in the line of Lithographic Printing in Buffalo. In 1856 they entered the business at 209 Main street, where they continued till 1861, when they removed to their present location in the Arcade Building, where they occupy the entire front on Clinton street, two stories, in which are their presses, engine, machinery, &c. They employ about forty or fifty men, and are increasing the number as fast as they can find the requisite skill. Their concern is perfect in every particular for Letter Press and Lithographic Printing, Binding, Framing, &c. They have lately added machinery for Illuminated Work for Railroads, Colored Posters, Embellished Views for Manufacturing Establishments, and all manner and variety of work in the combined Letter Press, Lithographic and Engraving line.

The Lithographic Press room is over forty feet wide and ninety feet long. Twenty-two presses are arranged around the sides and ends, so that all have sufficient light. Nineteen of these presses are used for Lithographic Printing, and three for Steel and Copper Plate Printing. Through the center of the room, running nearly its whole length, are a series of shelves and racks for storing away the stones when not in use. Many of these contain engraving which is kept for future use, and each stone is numbered and a register kept which indicates at a glance the contents of each.

For Rail Road Work especially the Colored Bulletins and Time Cards, the firm having recently purchased Scott's Patent for the Combination of Gilding on Glass with Printing on Card or Paper, a variety of effects will soon be shown to the public which no other establishment in the country can produce. By this patent, the only obstacle is removed which rendered the Printed Bulletins and Show Cards inferior to painted ones; for, in no other way can the brilliancy of Burnished Gold be produced. Mr. F. B. Scott, the inventor, has been engaged to superintend this branch.

The Map and Show Card Mounting Department which occupies the front of the fourth story, is the only one of the kind west of New York city. The Maps, published by the firm for themselves and others, receive their finish here; while Show Cards, &c., are also mounted on stretchers and varnished, or if required, framed. A room adjoining this is used for Map Coloring, another for a Paper Room, still another for a Bindery, where the Bank and Commercial work printed by the firm is finished.

The advantages of the combination of the various processes is, that all of them have their advantages for certain work, and while some can be done cheaper by one process than another, a concern using only one process could not avail themselves of the advantages of another, nor would they be likely to send offered work away even though they knew this to be to the advantage of the person ordering. In this concern no such difficulty exists, as it is easy to determine which process is best adapted to the purpose, and thus applicants obtain the advantage of an unbiassed opinion, while the firm stands ready to execute by the most economical or best adapted process. Many establishments (Railroad and Insurance Companies for instance) use large amounts of each and all the various kinds of work, and an establishment that has facilities to furnish all work required saves them much valuable time and the annoyance of shifting responsibilities where work passes through several hands.

The productions of this establishment may be easily summed up, for there is nothing in the way of printing, from the commonest Card or Handbill to the most elaborate Bulletin or Show Card, that cannot be furnished, and thus no one in want of printed matter go astray.

Messrs. Clay & Cosack came at a later period. Both of these gentlemen are experienced and talented in the designing and engraving line, and they have produced some as handsome specimens of the art as can be found. Within a short time they have formed a connection in business in this city, with Messrs. Matthews & Warren, with a view of enlarging their business.

THE NIMBS MANUFACTURING COMPANY.

This is a new organization with a capital of $500,000, of which Levi Allen is President, John H. Bliss Vice President, James Sheldon Secretary, John C. Clifford Treasurer, and A. B. Nimbs General Manager and Superintendent. This company has been organized for the purpose of manufacturing and selling rights to manufacture to others, of certain machines, implements, etc., patented by Mr. Nimbs.

Prominent among these inventions is that of the Floating Elevator. There are in this city twenty-five stationary elevators. Mr. Nimbs, some years ago, while sitting on the pier fishing one day, and casting his eye along the margin of the creek, witnessing a row of these structures extending for a mile or more along the harbor, was struck with the idea that a more economical method of elevating grain from vessels might be devised; it occurred to him that a floating elevator could be constructed at vastly less cost, that would accomplish the same result in a more economical manner. He had never up to that time been inside of an elevator, and knew nothing of its machinery, gearing, etc. When he went home he set to work making a model of a machine embracing his plan, and laid it one side, not thinking of it again for some time, until one day Mr. John C. Clifford came to his studio for a sitting, and while there Mr. Nimbs told him in a sort of jocular manner what he had been inventing. Mr. Clifford heard him through and asked him to let him see his model. So after a while the model was produced and Clifford said to him there is something in that elevator. You go on, make a working model and I will pay for it. Nimbs looked at him as much as to say are you in earnest. Yes, go on, and make a model and send the bill to me. The model after a few months was completed and submitted to the inspection of Mr. Clifford. That will work said Mr. Clifford, and I want an interest in the patent. This was arranged, of course. Mr. Clifford's liberality and Mr. Nimbs' inventive genius brought out this valuable invention, which has proved a success. The encouragement given to Mr. Nimbs by the generous and enterprising hand of Mr. Clifford stimulated him to

other and perhaps as valuable inventions, and in the end to the formation of this company represented by wealthy citizens of Buffalo. Next in importance, if not fully as important, is Nimbs & Clifford's Coal Elevator, which proposes to do away with the horse and bucket arrangement, and the substitution of machinery similar to that used in elevating grain. As Buffalo has become a point of transhipment of coal to a very great extent, this invention comes in at the right time to facilitate a business which has grown up in a few years into an immense trade. There are some dozen or more very important inventions of Mr. Nimbs, which this company are on the eve of manufacturing, all of which, of course, give us a more extended notoriety, not only as a manufacturing, but an inventive city. It is not expected that we can give anything of a description of these various inventions; models of them can be seen and all information relating to their value and usefulness will be given on application to Mr. Nimbs or Mr. Clifford at their office in Brown's Buildings.

CABINET WARE.

Hersee & Timmerman are the oldest firm in the manufacturing line in Buffalo. As early as 1836, they commenced the manufacture of furniture, and have kept on up to the present moment. Amidst all the ups and downs of the town and through all the financial revolutions of the past thirty years they have gone on, and at no time has their paper ever been discredited. They have built up a very large (the largest in Buffalo in that line) business in the manufacture of first class work. In their various shops they employ about one hundred hands, which has been the average number for many years past. A large amount of their work finds a sale here, although they have sales at the West and in Canada, for many of their goods. They estimate the amount of work turned out annually at about $100,000. Since our first edition was issued the firm has been dissolved, and Mr. Thompson Hersee is now carrying on the business in his name. In addition to the above firm, there are a large number of small shops scattered over the city, which, in the aggregate turn out in the course of the year large quantities of work in this line. There is not a town in the Union, perhaps, which has a better reputation for making first quality cabinet ware than Buffalo. That reputation was gained as long ago as when Barent I. Staats started business here, and the Messrs. Hersee & Timmerman and others have not let it die in their hands. Among the heavy dealers in furniture manufactured principally abroad and sold in this market, may be named Isaac D. White and Taunt & Bristol; besides what is made for them out of town, large quantities are manufactured for them in shops in this city. Vast amounts of furniture found in our auction and commission stores are manufactured in Massachusetts, and even in Rochester in this State. The lumber goes by us, is manufactured and brought back and sold at a profit. There are some shrewd Yankees in the furniture business outside of Buffalo. We also found, in a portion of Messrs. E. & B. Holmes' factory, Jacob Hass, who has commenced the manufacture of cabinet ware for the city trade, and is making some excellent styles of work in that line.

As a part of the furniture trade, and a very necesary part, is that of Billiard Table making. No gentleman's house is complete now without a billiard table. Uncle Jerry Staats was the first cabinet maker in Buffalo, who built a billiard table; this was a great many years ago—it seems like an age now, and still we find our old friend in the same business on Staats street, making billiard tables of a very superior quality. There is quite a large establishment up on Main street also, Wacker, making this a special business, and we learn that he is turning out some of the best tables in the country.

There are three large Chair Factories in town, employing a large number of men, and turning out large amounts of work, which is principally sold abroad.

LUMBER.

Immense amounts of lumber are manufactured in this city for local use, as well as for the adjoining country trade, yearly. Messrs. E. & B. Holmes are heavily engaged in this line in manufacturing flooring, siding, ceiling, sash, doors, blinds, panel stuff,

mouldings, brackets, and every thing in the line of planing, matching, grooving, etc., etc. There are several other concerns of this kind; we may mention Eaton, Brown & Co., Evans, and Dart Brothers, who are also doing in the aggregate a heavy amount of business in the above line.

THE CHEESE BUSINESS.

The manufacture of Cheese in Buffalo has grown up from a small beginning to what may be termed, without exaggeration, a vast trade. About the first person who made the cheese business a distinct feature, we may mention Mr. George A. Moore. As long ago as 1840, he opened a store at No. 3 Webster Buildings. Cheese in those days was shipped in casks and barrels. Mr. Moore was the first to introduce round boxes, in which he put each cheese and labeled it. The boxes were made at Herkimer; since then there have been established in this county five factories for making cheese boxes alone. Hamburgh Cheese is known all over the world. The reputation is mainly due to Hadwin Arnold, Jacob Colvin, and Truman Austin, who were the earliest dairymen in this county who paid particular attention to the manufacture of the article. The dairies in those days were brought to Buffalo and sold to some one individual, who fitted it for market by boxing it up and putting a particular brand upon it. The business has grown, and with its growth has sprung up a number of large houses in this city, who make this a special business. Engaged in this trade we may name Beard & Hayward, J. F. Peter, A. L. Dodge, S. Bogardus & Son, and George B. Ketchum. Mr. Moore informs us that his first year's business amounted to about $10,000, which has run up from year to year until this year, when he estimates his sales will reach $100,000.

From the best information we gather, which is tolerably reliable, the estimated sales for 1865, will reach the sum of half a million of dollars. So great has become the reputation of Hamburgh Cheese, that large quantities are manufactured in Ohio and counterfeit brands put on it and sent to Chicago and other points, and sold as the genuine article. Some of the descendants of Mr. Colvin are now making Hamburgh Cheese in Minnesota. Much of the article made in this county has been shipped to England, where it enjoys the best reputation.

Large quantities of the brand are now shipped to Kansas and Nebraska. There are customers at the West that buy cheese in this market, and have for ten years past, who never come here but send their orders for Hamburgh Cheese to some particular house, whom they have heard were in the trade.

AKRON CEMENT.

Within a few years there has sprung up in this city an immense trade in Cement, owing to the peculiar facilities we have for shipping to any point from this locality. We have now two large establishments here devoted to that trade entirely. Messrs. Cummings & Jebb occupy three hundred feet of valuable dockage on the Erie Basin, in this city, upon which they have erected a spacious and substantial warehouse, for the reception of their Cement, with capacity to store 40,000 barrels, and where it will be barrelled for market. We have seen testimonials from J. S. Beggs, Esq., Superintendent of the Western Division of the New York and Erie Railroad; Frank Ford, Esq., Chief Engineer Cleveland, Columbus & Cincinnati Railroad; Amos Wright, Esq., Superintendent of Construction of the Atlantic and Great Western Railroad; and Charles Collins, Esq., Engineer of the Cleveland, Pittsburgh and Allegany River Railroad, all speaking in the highest praise of this Cement.

NEWMAN'S AKRON CEMENT WORKS

Are situated one mile east of Akron, Erie County, N. Y., on the Canandaigua and Niagara Falls Branch of the New York Central Rail Road, half way between Tonawanda and Batavia, and thirty miles from Buffalo. They have three of Page's large size Patent Kilns, capable of making 80,000 barrels per year, which will be increased

by building three or four more kilns from 160,000 to 200,000 per year. In connection they have two large mills capable of grinding 200,000 barrels per year.

They have arrangements with the Rail Road to draw the Cement, as fast as made, to their Warehouse in Buffalo, which is situated on the Erie Basin. The building is attached to the Erie Basin Elevator, and there is a branch track, from the Rail Road, running into the Warehouse. The building has sufficient room to unload five cars at once, with good Docks for Propellers and Vessels, which saves handling the barrels by drays, leaving the packages in good order for shipment aboard of vessels. Thus we have two immense concerns handling and shipping the article of Cement, giving employment to a large number of hands, assisting our commerce and adding to the wealth of our city.

SEWER AND DRAIN PIPE.

The facilities for procuring cement are such, that it has induced the introduction of manufacturing drain and sewer pipe at this point. We see that Messrs. Copeland, Rathbun & Co. have established works this winter on Fourth street, where they are producing on a large scale, all sizes of sewer and drain pipe made from cement, under Knight's patent. This promises to be an extensive branch in Buffalo, as it is said that this kind of pipe is superseding all others where it has been introduced. Its durability and cheapness will give it a preference, no doubt, over most kinds of pipe now used for those purposes.

EARLY PLUMBERS AND OIL MACHINERY MEN.

We believe the old firm of Hubbard & Hart were the first that attempted anything in the line of plumbing in this city. This was long before gas or water had been introduced here, or even thought of. In those days, several private residences were fitted up with force pumps, by which water was delivered to different parts of the house. After the introduction of gas and water, the plumbing business became quite a feature of mechanical industry of the town. At that time, Mr. William A. Hart and Geo. Hubbard were carrying on a general tin, copper and sheet iron trade; the tinsmith business had been inaugurated long before by Geo. Hubbard, the father of George L. and Linus. We remember well the advertisements we used to read in the Buffalo Journal, of "rattle boxes, oh, what a lot of rattle boxes," "pepper boxes, ten thousand pepper boxes," "tin whistles, fox skins, feathers,"all for sale at the old tin store of Geo. Hubbard. In time, the old gentleman died, when George and Linus took the business; then Mr. Wm. A. Hart, father of the present Austin S. Hart, formed a connection with Mr. Geo. L. Hubbbard, and as the plumbing and gas fitting branch increased, they extended their facilities for doing that kind of work. Quite a number of years ago, the firm was changed to Hart, Ball & Hart, which is now the firm name, although the elder Mr. Hart, who had been an active business and influential man for many years, died leaving a good business in the hands of his son, Mr. Ball, and one of the sons of Linus Hubbard. Since the discovery of Petroleum, a vast and increasing trade has sprung up in furnishing the tools and implements for drilling and tubing Oil Wells. This firm has gone largely into that branch of trade, and they are now furnishing all the appliances for "striking oil," except the engines. In this line they have built up a large business and are supplying parties with this class of machinery wherever oil is found in the United States, Canada, and in some localities in foreign lands. The business has become so large on their hands, that they are now making arrangements to continue their works through to Washington street, in order to get room enough to manufacture the pumps, drills, reamers, sheriffs, shives, sand pumps, jars and a hundred other inventions, necessary in the oil drilling business. They continue as heretofore the gas fitting and plumbing department.

There is also the large establishment of John D. Smith & Co., in the Gas Fixture line, they keep an extensive assortment of the most fashionable style of fixtures.

We would also notice Messrs. Hardiker & Keenan, practical plumbers and gas fitters, on Eagle street, who keep a full assortment of everything in the line and are doing an extensive trade; as also Mr. J. W. Somerville, on Swan street, and Irlbacher, Davis & Co., on Mohawk street, and Geo. Irr, 391 Main street, who has just opened a large establishment devoted to the sale of this kind of ware, and for doing a general plumbing and gas fitting trade.

CARRIAGE MAKING.

Harvey & Wallace occupy a front on Lock street, near Erie street, fifty feet, running to the Erie Canal, one hundred feet, with a four story brick shop, and smith shops in the basement. They came here about ten years ago, and commenced the manufacture of carriages, buggies, light wagons and fashionable barouches for family use. The business has been growing from the time they started, and for the last year or two they had orders for more than they could do, owing to the scarcity of labor; this year they hope to keep up with the demand, as many of their hands who went to the war have returned, and are at work again. The timber used in the manufacture of barouches and buggies is of the very best quality second growth hickory from New Jersey. The iron is all manufactured at the Pratt Iron Works, from the best scrap. The styles of work turned out by this establishment are of the best finish in the country, many of their patterns having been imitated in New York, by some of the most famous buggy builders in that city. They make a very peculiar model of barouche, single horse, for families, which are in use here among many of our first and wealthy men. They find large sales for their carriages in the West, where they have been introduced for the past four or five years, and given the most entire satisfaction. They estimate that they will manufacture during the year 1866, from $40,000 to $50,000.

Mr. D. C. Godwin, on Washington street, has a large shop and is making some handsome specimens of light buggies, finished off in the latest and most fashionable styles. There are several other establishments, scattered over the city engaged in this branch of industry, all doing a good business. We find Mr. Jonathan Chamberlain, son of Sylvester Chamberlain, known to our old residents as the oldest wagon maker in the town, has recently established on Niagara street, where he is engaged in making the heavy class express wagons, a business that heretofore has been done at the East. We see no reason why that class of work cannot as well be done here as to send abroad for it. Jonathan is a first class mechanic, and we hope to see him prosper in this branch of industry.

CHILDREN'S CARRIAGES.

There were $85,000 worth of Children's Carriages made in Boston, Massachusetts, last year. Besides the different manufacturers in Boston there are several other establishments in Massachusetts, where these carriages are made. There must be at least $200,000 worth of this article manufactured in the Eastern States yearly, which are mostly sold to go West, many of which come to this city and are sold at retail and jobbed for still farther western points, by our wholesale dealers in fancy wares.

In October, 1865, Mr. F. P. Peck came here from Greenfield, Massachusetts, where he had been engaged for some time in the business of making this almost necessary article. He satisfied himself that this would be a favorite spot where this style of work could be produced as cheaply as any where at the East. He accordingly commenced at first by hiring a small room in Holmes' factory on Michigan street, where he could procure steam power. He found in a few months that the business would pay, and on the first of January last, he hired the whole of Goodwin's Hall, on the corner of Michigan and Scott streets, where he has now twenty hands at work in different rooms, fitted up for manufacturing this style of goods. From present appearances he estimates that he will be able to do a business of $20,000 the present year. The prices vary from eight dollars to seventy-five dollars each, according to the style and finish of the carriage. The lumber is all furnished here, as well as the trimming goods and iron. There is not

the least doubt but a very large paying business, in the manufacture of all manner of Children's Carriages, can be built up here in a few years.

SOAP AND CANDLES.

Gowans & Beard, corner of Chicago and Perry streets, manufacturers of soap and candles, employ about twelve men. They turned out in 1865 about $116,000 worth of the manufactured article. The market is both east and west. Mr. Gowans commenced the business with Mr. Crawford in 1834, and in 1847 he went in with Mr. Beard under the firm of Gowans & Beard, which firm still exists. It is estimated that over $350,000 worth of soap and candles are manufactured in Buffalo, and that so successful has been the competition that New York soap and candles have been entirely crowded out of the market. H. Thompson on the opposite corner of Perry and Miami streets, has also a large concern, where he is making soap and candles, employing six men, and sells mostly for home consumption. There are some eight or nine small factories, turning out more or less in the same line, among whom are E. J. Atkinson, Bowery Place; R. W. Bell & Co., State street; P. M. Dantzer, Exchange street; A. Hofner, Van Rensselaer streets; J. Weller, Seneca streets; William Lautz & Son, Prime street.

STAVE DRESSING.

There are four establishments in this city, making shooks for sugar and molasses hogsheads. The staves are dressed by machinery, and set up and finished by hand. Mr. A. Starkey employs about twenty hands and turns out about a million of staves per year. Shaw & Kibbe, on the Blackwell Canal, George W. Sigerson, on Miami street, and Messrs. E. & B. Holmes, on Michigan street, are each turning out about the like amount. It is estimated that four millions of staves are dressed in this city annually, which are set up and shipped to the West Indies and other markets.

MARBLE WORKS.

We have in this city several establishments, cutting marble. That of John Crawford on Niagara street is the largest. He has been in the business for a long time and is doing some splendid work in the way of monuments, mantle-pieces, ornamental parlor work, statuary, busts, outdoor ornaments, &c., &c. There are also N. S. Field, Dexter Belden and Rose & Bechtold, each doing a good business in the above line. There was in the neighborhood of $50,000 worth of this kind of work done here in the past year. Messrs. George O. Vail & Co. are large dealers in Marble, and ship great quantities west from their marble yard at the foot of Chicago street.

SLATE ROOFING.

For many years prior and subsequent to the Revolution, Slate took precedence for roofing, more especially in the coast cities, where it was brought from Wales at small cost, vessels carrying it as ballast. After a time, the demand in Great Britain increasing, orders from here could not be filled, except at heavy cost, and our people then had recourse to tin, the cheapness of which made its use, for a series of years, almost universal. As soon as the importation of slate ceased, our countrymen, with that progressive spirit which characterizes them, commenced prospecting, and found that slate, equal in strength and texture to the famous Welch, existed in the Eastern and Middle States. Capitalists came forward, invested their money, and the result was the opening of numerous quarries in the States of Vermont and Pennsylvania. Owing to the favor extended to the use of tin, these quarries were not extensively worked until within the past eight years, within which time the demand has been steadily increasing. An impetus was given to the trade by our Civil War, which enhanced the price of other roofing materials, and again turned the attention of builders to slate. To-day, the slate

business stands prominently as one of value and importance. We find in this city a number of elevators, churches, railway shops and various other works covered with slate roofing, as almost every important private residence built in the last three or four years.

The most prominent in the slate trade is Mr. John Galt, of Newburg, N. Y. He is a type of the young and energetic business man. He commenced business some six years ago, with little or no capital, but has by economy and perseverance now become the representative in this country of the slate business. He is sole agent for the three leading slate companies—The Eagle, of Vermont; Chapman and Lehigh, of Pennsylvania; and through them represents nearly two-thirds of the slate product of the United States. These companies are well known, and the reputation of their slate already established.

Our readers will see that Buffalo is a very important point for this branch of business, which may really be classed among the manufactures of the city, as those engaged in quarrying the slate have also large shops here, where they prepare it for roofs for local trade. Among other heavy dealers in slate we may mention Geo. O. Vail & Co., who occupy the large dock and warehouse, foot of Chicago street. Mr. O. H. Osborn, also, is engaged largely in slate, metal and gravel roofing materials.

BELLOWS MAKING.

We have two manufactories where Bellows are made. J. Churchyard, on Clinton street corner of Adams, is manufacturing all manner of sizes and patterns from an iron founder's moulding down to the smallest size used in smith shops. The article manufactured at these works stands deservedly high in the market all over the country, as is evinced from the orders received from abroad. There were manufactured of this article in this city last year over $18,000 worth. There is also the firm of Voas & Ward in the same line on Alabama street.

WINDOW SHADES.

A large business in this line has sprung up in this city within the past year in the manufacture of shade painting on Holland cloth. Messrs. L. H. Phillips & Co., engaged in that line, are now making five thousand yards per month into shades, of which they do the designing, ornamenting and painting. Since its introduction the business has increased largely, and they are now making arrangements to increase their facilities for extending their business to meet the demand. They are also the inventors of a card rack, of which large quantities have been sold here, aad shipments made to Europe, where they have been introduced. This is a new article of manufacture for Buffalo, and in the hands of these energetic young men, the business will grow into a matter of great importance. Their styles of shades are beautiful in originality of design and ornamental finish.

ALE AND BEER BREWING.

We do not know precisely how we compare with other localities in the manufacture of ale and beer. It is quite evident from the statistics that we are doing our share in that department of industry. The business is sufficiently large and old enough to go alone without any further stimulating at our hands. It is prospering with the prosperity of the city, and what more can we ask? So long as we have a barrel of beer a year for every inhabitant, we ought not to complain.

We have fifty brewing houses, large and small, in the county; of these there are thirty-seven in the city. There were brewed in the county last year 113,426 barrels of ale and beer, 108,353 of which were brewed in this city, which is over one to each inhabitant. We are justified, perhaps, in saying that this class of business is in a thriving and prosperous condition.

TOBACCO WORKS.

There are in Buffalo four large establishments cutting tobacco, the largest of which is that of James Adams & Co. This establishment is regarded as the most extensive in Western New York, both in respect to the premises occupied as well as the amount of the article manufactured. We have not the possible space to go into an extended description of the different works devoted to this interest, but must content ourselves by giving the amount of tobacco manufactured in the past year. We find the total amount to be 373,345 pounds, of which Messrs. Adams & Co. manufactured two-thirds of the quantity.

There are seventy-five manufacturers of cigars in the city, giving employment to a vast number of persons. We cannot get at the total amount made in time for this publication. It will be seen, however, that the sum must be large.

ROPE, CORDAGE, TWINE, ETC.

Messrs. Butler, Mapleston & Co. have very extensive works for the manufacture of cordage, twine and small tarred work, on Butler street. The walks are 400 feet long, the first story being 30 feet wide and the second story 20 feet. These works are devoted to the manufacture of all manner of twines, cordage and small manilla work. They have a capacity for working forty hands, and are capable of turning out manufactured goods to the amount of one hundred and fifty tons a year. The manilla is obtained in the New York and Boston markets, and the American hemp from Lexington, Ky., and St. Louis, Mo. Sales of this manufactured article go East as far as Albany in this State, and through all the Western and Southern States. These are comparatively new works, having been commenced only in 1864, since which the business has grown rapidly, and promises to become an important industry in our city. The fine twines and small tarred work of all varieties are made a special feature, and they claim that they are competing in quality with any manufactured in the country. We are told that sales are made as fast as the goods can be manufactured, and that orders are constantly ahead of the ability to supply. There are several other manufactories of twine and cordage, turning out in the aggregate about one hundred tons annually. Among these may be mentioned Francis Kimmitt, who, we believe, has been over thirty years, and is now the oldest in the business living. There are also R. Renek and Hugh Donoughue engaged in the same line. Mr. Henry Kip, father of H. Kip, of the U. S. Express, erected the first rope walk in Buffalo. It ran along where Folsom street is now, and extended from Michigan to about the line of Chicago street. We have run foot races on it many a time when we were a lad.

In the way of heavy rope and rigging, Messrs. Pooley & Butterfield, on De Witt street, have a large establishment, run by steam power, where they make all the heavy grades of ship rigging and heavy tarred work. Their walk is about one thousand feet long and sixteen feet wide. These works supply nearly all the shipping of the lakes.

SCHOOL FURNITURE.

W. Chase & Son commenced the business of furnishing Schools with all the furniture needed about ten years ago. The manufacture of this article has heretofore been confined to New York and Boston; consequently, the Schools west of New York have been compelled to use a cheap and inferior article, on account of the high price paid for Eastern work. This has now become quite an important branch of manufacture in our city. Sales of this style of furniture are made in all the Western and Southern States. The cheapness of lumber and other materials at this point, gives to Buffalo an advantage over the Eastern markets in this respect. So far as the quality of the work is concerned, that turned out by this establishment cannot be excelled. Messrs. Chase & Son occupy a large shop and grounds for storage of lumber, &c., on Seventh street, where are constantly employed about fifteen hands in the manufacture of this

style of goods, which when ready for shipping are nicely packed in a small compass with ample directions how to put them together, &c. This business from a small commencement, has grown into a large and important branch, and will continue to increase as the West becomes populated, and the people begin to comprehend the value of making the school-house attractive and agreeable, by the introduction of nice chairs and seats and pleasant surroundings for the scholars. The sales of this establishment average about $35,000. The lumber used is chiefly cherry, sycamore and ash. The castings are made at two foundries in this city, thus giving additional employment to a number of mechanics.

GLASS STAINING.

Great improvements have been made in this beautiful art, in the past few years; much of the credit of which is due to this city, for the almost perfect state to which it has been brought. Without going into the history of the antiquity of the glass staining, etching and embossing art, we will come down to about the time it was introduced into our city. We believe that as long ago as 1833 or 1834, Mr. William G. Miller first inaugurated the painting on glass and afterward the process of staining. The premises then occupied by him are now devoted to the same line of business by Booth & Riester, No. 11 Pearl street, it having passed through several hands until a year or two ago, when they purchased the works and are now carrying them on. This establishment is now one of the most extensive west of New York, and possessing all the modern improvements in this beautiful art, is prepared to execute to order Memorial and Church Windows of every style and description; also, Stained, Enameled and Embossed Glass for Side, Panel and Sky Lights—from the plainest to the most elaborate and artistic. French Plate Glass for door panels, embossed in every style. Lead and Iron sash, of every shape made to order. They also furnish designs for Churches and private Residences for any part of the country.

We are told that during the past year they have furnished windows, &c., for churches in St. Louis, Mo.; Xenia, Newark, and Cleveland, O.; Detroit and Grand Rapids, Mich.; Erie, Titusville and Pittsburgh, Pa.; Silver Creek, Rochester, Williamsville and Knowlesville, N. Y., &c., as well as in furnishing rail road companies with panel and skylights. In fact there is nothing in the way of scriptural pieces and ornamental work for churches and private residences, and public buildings, that cannot be executed by the above firm. They keep ten or twelve hands constantly employed, and during the past year they did about $10,000 worth of work for out of town customers, and they have now orders for house work from Nashville, Tenn., and other parts of the south.

There is also the establishment of Mr. George L. Burns on Washington street, doing a good business in the same line of art. Mr. Burns himself is a gentleman of exquisite taste, and has furnished designs and staining for a number of churches in our vicinity; his work is mostly out of town, furnishing scriptural pieces for church windows and the like. He has a number of skilled hands employed. We can say without fear of contradiction, that we can turn out as handsome specimens of glass staining, embossing and ornamenting, as can be found in any country.

PATENT MEDICINE MEN.

Don't be startled, dear reader, at the heading of this article. We are not going to treat you to a puff of any man's "quack nostrums" or patent medicine, although before we get through we may attempt to relieve this class of manufacturers from a portion of the odium which has naturally attached to their profession.

Among the Indian tribes of the far west, from time immemorial, the "Medicine Men" have been the acknowledged great men of their tribes; they combined the character of Physician, Priest and Prophet. Our modern civilization has changed the

medicine man of the Indians to the "Patent Medicine Man" who, though neither priest nor prophet, has generally managed to make his vocation *profit*-able. Instead of working upon the fears of the superstitious, he has found certainly as extensive a field in the credulity of the people. The imagination is ever most fertile in furnishing him subjects for his nostrums, generally harmless and often possessing really curative properties. It is an acknowledged fact among regular physicians, that even inert prescriptions given to patients afflicted with real or imaginary disorders, often work surprising cures, when aided by faith in the efficacy of the dose.

We think we could prove, if we had time to go into detail, that in scarcely any of the walks of life, can there be found a greater number of individuals engaged in the manufacturing business, who as a class maintain better relations in society, are any more public spirited, have more generous impulses, or have contributed more liberally of their means for charitable purposes, or have left their mark of enterprise more widely spread and deeply impressed on the age, than have the so-called patent medicine men. As a part of the history of Buffalo, we wish merely to state in a few words what is doing outside of iron, leather, wood, tin, copper, paper, ink, rope, soap, candles, glue, marble, slate, steel, shooks, cement, lime, bricks, &c., &c., and revert incidentally to a branch of industry of some importance at least to the printer, the box maker, and the glass blower.

Everybody has heard of the great Wahoo man, Loveridge. If they have not, it has been no fault of ink and type, as they have aided liberally to extend his fame far and near. Right here we wish to apologize for a typographical error the compositor made in his advertisement, in our first edition. The wag of a printer made him put *boots*, instead of *roots*, in his bitters. We know, and so does everybody else who knows Loveridge, that he would not be guilty of *that*. It would take more chemical science than he is master of, to extract a pennyweight of genuine tonic from a cord of boots. Leather is a good thing to use in making boots and shoes, but no sane man has ever dreamed that Wahoo bitters could be distilled from that invaluable material. So much for the apology. Now as to what the Wahoo man is doing for his town. We find that Mr. Loveridge commenced in Buffalo some four or five years ago, without a cent of capital, in the manufacture of Wahoo Bitters. He is now giving employment to twenty or thirty hands, besides those engaged in blowing his bottles, making his boxes, doing his printing and the like. He is manufacturing at the rate of $200,000 a year of his bitters, pays $25,000 for bottles and $15,000 for government stamps, uses $6,600 worth of boxes, expends $3,000 in advertising and $5,000 in printing annually. He gets all the glass they can furnish him from Lockport and Clyde, N. Y., and for the balance he sends to Pittsburgh. If we had glass works here we would keep this money at home; but as we have not, it is sent abroad for an article that should be, and could as well be, manufactured in Buffalo. Thus, Mr. Loveridge is contributing to the growth of the city by employing its labor in various ways; by investing his means in real estate and buildings, which we understand he has done recently in the purchase of a store on the Terrace, which he is fitting up for his increasing trade.

Here we will leave Mr. Loveridge, and tell the reader something about some other patent medicine men we have heard of. There was once a man in Philadelphia by the name of Swaim, a poor bookbinder. He had a kind of sore on his leg which troubled him very much. One day, as he was running over the pages of a book he was binding, his eye came across a recipe for making a syrup which was said would cure scrofula, king's evil, and other diseases of the blood. He copied it, got some of the materials at the drug shop, took the medicine, and in time was cured. He then made some for his friends and acquaintances, and finally left his binders' counter and entered into the manufacture of "Swaim's Panacea." It began to sell, and finally its fame spread wherever civilization had gone, and in some parts where the people do not enjoy that blessing to this day. He paid enormously for advertising, and after many years he built blocks of stores and splendid mansions in Philadelphia, where they appear in all their magnificent proportions, the pride of the city and a monument to the memory and enterprise of a patent medicine man. He died and left his heirs a million or more.

Doctor Dyott living in, or about the same time, accumulated a large fortune from a catalogue of patent medicines he prepared, which were popular in their day, some of which are selling now. He also made his mark in Philadelphia, and is remembered by thousands to this day. He was unfortunate at one time, but eventually got through his difficulties, and as his sons grew up they started business again, and the last we knew of them they were making money out of the patent medicine business.

Coming down to a later period we may mention Dr. Wright, who made "Wright's Indian Vegetable Pills." He did a very large business, and of course, got very rich.

Dr. David Jayne died in Philadelphia a few days ago, leaving $3,000,000. He commenced about thirty-five years since, as poor as he could be, in putting up a round of what he called "Family Medicines," such as Sanative Pills, Carminative Balsam, Worm Medicine, Expectorant, and a score of other curative preparations. Philadelphia is dotted with towering structures erected by him. He had great taste for the tall and massive order of architecture. His residence stands on Chestnut street, near the Schuylkill bridge. The edifice is of pure marble, and is the most exquisite mansion in Philadelphia.

Dr. Schenck, we believe, was a Philadelphian. He put up a Syrup for curing Consumption, and at one time kept a small office in Cortlandt street, New York. For many years it was up hill work to make the medicine take, but by dint of persistent advertising he weathered the storm and has come out all right. The Doctor owns a large farm, on the New York and Philadelphia Railroad, in New Jersey. The station named after him is at that point, where travelers see in large letters as they go by—"Consumption Can be Cured." He is probably worth his hundreds of thousands by this time, all made from the sale of a patent medicine. There are scores of others in Philadelphia, whose names escape us at this moment, who have realized large fortunes and built for themselves splendid mansions in that city out of the same line of business.

It may be thirty-five years ago that Doctor Benjamin Brandreth made his debut in New York, as a vender of pills. It was alleged, at the time, that he procured his recipe from an old man that either came over with him in the ship from England, or that he became acquainted with him in New York. It makes no matter which. When he first started in Hudson street, he was too poor to advertise, and for some time sold his pills by the single box until he acquired a sufficient sum to put a short advertisement in the "Sun." As the pills began to sell he increased the manufacture and establishing agents, in all cases leaving them with booksellers, never allowing druggists to sell them as his agents. After a while he found the druggists were selling more than he was manufacturing, which an investigation proved that they were an imitation article. This gave him a good chance to caution the public against counterfeits. In time he opened a central office in Broadway, above Warren street, which, for a long time, remained his principal office. At length he made terms with the druggists, and the pills became a regular article on the price list of wholesale houses. Afterwards a site was purchased at Yonkers, where a factory was built, which supplied the demand. A sloop carried a load of hogsheads of pill boxes up, and brought a load of pills in boxes back. The Doctor probably owns a steamboat to do his carrying business now. We have no means of estimating his riches. The Brandreth House, corner of Broadway and Canal street, is owned by him, and we presume he owns whole squares of other real estate in that city. The Doctor has represented Westchester in the Assembly and Senate of this State on several occasions, and at one time was a very active politician. His son is now a member of Assembly from the same district, and made an able speech a few days since in favor of the eight hour system of labor. The pills keep selling, and give employment to over one hundred hands engaged in the manufacture of them at the factory in Yonkers. Doctor B. has made his mark as a patent medicine man of no mean ability.

Doctor Ayer of Lowell, came very near ruining all his relatives after he started his Pills, Sarsaparilla and Cherry Pectoral. It was a tedious time he had in fighting, advertising bills and other expenses. He spent what little he had, borrowed all his relatives had, till finally the medicines began to make returns, and from that time, some twenty years, he has been making money. He owns a paper mill, where he makes a peculiar

paper which he claims is not easily counterfeited, in which he wraps his various preparations. People who estimate his wealth, run him up into the millions. At one time he was, if he is not still, a heavy stockholder in the N. Y. "Tribune Association." Such men are apt to leave their imprint even if they make their money in the manufacture of patent medicines.

Wm. B. Moffat was a broken down silk merchant in New York. Besides being a bankrupt, his health had become very much impaired from over work, and trouble of one kind and another; in his extremity, he conceived the idea of making a pill and bitters. They cured his infirmaties and made a millionare of him in less then twenty years. Persons familiar with New York, can tell the number of magnificent stores he owns on Broadway, and other parts of the city. He died some years ago, but the pills and bitters didn't. The heirs carry on the business as usual.

Perry Davis, the Pain Killer man; Donald Kennedy, proprietor of the Great Medical Discovery—who has refused one hundred thousand dollars for his right; Seth W. Fowle, who bought Wistar's Balsam of Wild Cherry from Isaac Butts of Rochester; Demas Barnes of New York, the largest Patent Medicine Depot in America; Hostetter, Heimbold, the Mexican Mustang Liniment man, and a thousand others in the United States whom we have not time to mention, can count their hundreds of thousands, all made in the patent medicine trade. Isaac Butts of Rochester sold the right to manufacture Wistar's Balsam of Wild Cherry in the Eastern States to Seth W. Fowle of Boston, for $25,000, and put the greater part of the money in telegraph stock, which stock accumulated so fast that with its dividends and what he made in the Rochester *Union*, he has retired, with about a million and a half, a richer if not a happier man. Rows of stores and blocks of land owned by him in Rochester, attest the truth of what we write. Isaac commenced by selling Sherman's Lozenges and Peters' Pills on commission. Patent medicines have made him a princely fortune.

We remember a Mr. Bristol of this city who put up an extract of Sarsaparilla, and several other preparations. He commenced as a clerk with John C. Morrison, in Greenwich street, New York, about thirty-eight years ago. Mr. Morrison was at that time doing a large drug business in that city. Here he remained for a season, when he went into the employ of Lawrence, Keese & Co., in the same line, in Maiden Lane, just below Pearl street, until 1832, when he came to this city and entered into partnership with Dr. G. E. Hayes in the medicine business. Their store was on the west side of Main street a few doors above the Terrace. In about a year after, he succeeded Dr. Hayes and carried on the business alone for many years, when he embarked in several enterprises, among which was the manufacture of printing ink, under a patent issued to Dr. Mathews of Rochester, for manufacturing printers' ink from rosin oil. This enterprise with its attendant circumstances, lost him sixty thousand dollars. Alas, too much of printers' ink hadst thou, friend Bristol! No man had a better appreciation of the power of type and ink than he had; his experience of six years, however, on a daily newspaper in this city, gave him all the fame he aspired to as a public journalist.

While Mr. Bristol was pushing his famous Sarsaparilla, which is probably as widely known to-day as any medicine before the public, and which with his Pills are finding a sale in every part of the habitable world, through the vigorous efforts of the house of Lanman & Kemp of New York, who now own the title to both articles, he was the most liberal man in the trade in advertising in all its different phases, besides being the originator of several new styles of advertising which have become standard systems since their introduction by him; for instance he was about the first to introduce the large show bills in colors, for which he paid heavily for engraving and printing, he was the first man in the world who printed a free almanac, (copies of which, we believe, are to be found in the Historical Society,) which now are as common as A B C books, and as cheap as the air we breathe. Mr. J. M. Johnson of this city prints for one patent medicine concern alone in Lockport, over a million each year for gratuitous circulation. There is not a patent medicine dealer of any pretentions in the country, who is not the father of an almanac.

Mr. Bristol also initiated the extended style of advertising in the Metropolitan newspapers, which has been imitated so generally by not only patent medicine men, but others who understand the science of advertising. We remember of his inserting in the N. Y. "Tribune" and "Sun" one Saturday a page each in those papers, at a cost of $125 for one insertion. It would cost four times that amount to insert the same matter to-day. This, at the time, was considered sensational; to-day it is common. After a time we find Mr. B. engaged in commercial pursuits, and while doing business on Buffalo Creek, the house in which he was a partner contracted with Bidwell & Banta for the building of three clipper schooners, "Lansing," "Willis" and "Fox," which were the first of that class of vessels ever put afloat on the Western waters. Mr. Bristol may be classed among the eccentric characters of his time. In referring to his history we would "nothing extenuate nor set down aught in malice." There has been nothing new or extravagant in politics, theology, political economy or social science, that he has feared to investigate; and, although not a propagandist of any particular doctrine, theory or ism, he has perhaps rendered himself conspicuous as a believer in certain theories which, at the time, were unpopular, because new and untried. Such was the case with the doctrine of Physiognomy, Craniology, as it was called; Phrenology, Mesmerism, Biology, Morse's theory of the electric telegraph; Fourier's plan of association and theory of the social destiny of man on the earth; Germain's project of driving a steamboat through the water at least fifty miles an hour, and various other projects at the time deemed visionary, which have been advocated, and found but few friends in the beginning. Mr. Bristol is what may be termed one of the believers in the progression of the race, and that as fast as progress is made, new developments are unfolded to man on the planet, to enable him, with the aid of steam, electricity and other motors, in prosecuting the great Divine work of civilizing the race, elevating its standard and in spreading the branches of the tree of liberty over all the nations of the earth. Notwithstanding all this, the truth of history compels us to say that for fifteen years he has been battling against a succession of adversities which, at times, threatened to overwhelm him completely. We have in his case given the reverse side of the history of one of the patent medicine men who occasionally, through misfortune or other causes, fail—this, however, is the exception, not the rule. Such men, too, may have left monuments that in after times, when a censorious age shall have passed away, will tell of their good intention, and some generous deeds committed by them while they lived, that may ask a judgment from the world when dead, that it was no worse off from their having lived in it. This, then, is our case. If we have failed in our imperfect and disjointed history of a few of the principal men in the patent medicine business, to vindicate a class engaged in a lawful and praiseworthy calling, from a stigma which is attempted to be fixed on them; and if we have not shown that, as a body, they are as public spirited, patriotic, influential, and useful as other manufacturers, then we submit to a conviction. On the other hand, if we have sustained our cause and proven our clients clear of the charges, we ask from the jury an honorable acquittal.

THE INVENTORS OF BUFFALO.

We live in an age of invention. The new discoveries being made daily, and such as have been brought to light within the past fifteen or twenty years, are giving employment to millions of people in this country, as well as in the Old World where civilization is spread. Look at the numberless hands at work on sewing machines, on the different kinds of agricultural implements and devices, on steam engines and machinery, on railroads and telegraphs. No matter where we turn our eyes, we find that nearly all the mechanical industry of the country is engaged in producing the necessary tools, implements, machines, structures, etc., etc., for the comfort, convenience and the necessities of a civilized race, all of which are more or less protected by letters patent. With all this countless number of inventions given to the world, one would think that genius in that line had come to be pretty nearly exhausted. Not so; to-day it is

sharper, more active and more fruitful than ever. Not a day passes, but some new and wonderful discovery is chronicled, which may be made to work revolutions in old methods, old styles and past fashions, in arts, agriculture and navigation, as well as in all branches of mechanical science. Nations are drifting into a higher state of freedom and civilization. The inventive triumphs of Fulton, Stephenson and Morse were the forerunners, the precursors of a mighty revolution, which in the end is to sweep over all the lands; first in shape of wars, which are to liberate the body, then in a greater one to liberate and liberalize the mind. The inventions of the past, present and future, are to be the agents used in working out this grand and comprehensive plan of destiny by which the planet is to become a paradise, where progressed humanity can dwell, and where honest, industrious labor, no matter what its color or condition, will receive a reward commensurate with its capacity and power to enjoy it.

Noted among our inventors may be mentioned the name of Mr. E. B. Forbush, who was the first to establish in this city a patent agency office to facilitate the obtaining of Patents at Washington, and assisting inventors in making out their claims, specifications, etc. Mr. Forbush patented a hollow tooth used in the cutting bar of the celebrated Ketchum mower, invented by the late W. F. Ketchum of this city, and successfully brought into use by Mr. R. L. Howard, who has since erected works for their manufacture on a large scale. Mr. Forbush is also the inventor of several improvements in mowers and reapers, which are now in use on different machines in various parts of the Union.

Rollin Germain, Esq., long a resident of Buffalo, has for the last ten years or more been engaged in developing his invention of a fast steamboat. While riding on an East River steamer some years ago, he conceived the idea of constructing a steam craft which should be of light draft, with sharp lines as well as some novel improvements on the old and present mode of propelling steam vessels. Letters patent were granted some time since to Mr. Germain for his invention, and during the rebellion he constructed two vessels under the superintendence of the government, but was not allowed to introduce his improvements, except in a partial manner. Imperfect as they were, it demonstrated the fact that in his plan greater speed can be obtained than has heretofore been reached by any other mode of propulsion. We consider under all the circumstances it was a great triumph for Mr. Germain's invention. The day is not far distant when Buffalo will rejoice in holding up to view among the inventors of the land, the portrait of one who has made a mark on the dial of the age, as important as any of the renowned inventors of modern times.

Since the publication of our first edition certain parties in New York have made a contract with Mr. David Bell, of this city, for the construction of a steam vessel on Mr. Germain's plan, and, although his idea will not be carried out in full, owing to the size of the craft, yet we anticipate a successful demonstration of the speed that may be attained in a perfect model of his large sized vessel.

Mr. A. B. Nimbs is the inventor of some very important machines, many of which are in use in this and other cities. His floating grain elevator, coal elevator, portable elevator, grain bins and storehouse combined; wrought iron elevator leg, iron elevator bucket, cast iron tension pulley frames and universal journal boxes combined, universal oscillating boxes for elevators and mill shafting, and many other valuable inventions.

Mr. William A. Kirby, an early inventor, was employed by E. B. Forbush in 1852, when he invented the Kirby mower, which is now in general use all over the country, and manufactured by the Buffalo Agricultural Works of this city. Mr. John Butter is the inventor of an improved mower called the "Uncle Sam," which has been manufactured to some extent in this city by Fischer & Weiland.

In the way of printing presses, Mr. George J. Hill has made some discoveries for printing railroad coupon tickets and numbering and counting them at the same moment, as also a press on which are worked tickets and job work in one or more colors at the same time; two of these presses have been constructed at the Buffalo Works in this city, and sent to Philadelphia, for a coupon ticket printing establishment there. Mr. Hill is now having one made for Rockwell, Baker & Hill of this city, which is to be used for that

purpose in their establishment. This is a very ingenious as well as important machine, and one that reflects great credit on the skill of the inventor. If we had space we would like to go into a minute description of this press. In a few days, one of them will be in operation, when those interested in looking at a splendid piece of mechanism will have an opportunity of seeing it at work in their printing house.

Ray & Cleveland have invented, and are manufacturing locomotive head lights and steam gauges. E. & B. Holmes are the inventors of machinery for making barrel stave jointing and dressing machines. V. W. Houck, also for a stave machine of value. A. S. Swartz, for iron bridges, many of which are in use on our streets, as well as on streets in other cities. George A. Prince & Co., for numerous improvements in melodeons. Wilson, Spendilow & Watson, for a grain shoveling machine; four hands will do the work of a gang of thirty men. Doctor George E. Hayes, for improvement in vulcanizing machines, for dentists, of which he is making and selling large quantities. Sangster Brothers, for lanterns, of which letter patents were granted many years ago; a reissue of which has been given them after a severe litigation. The Sangsters are continually inventing some new and useful improvement of one kind or another, many of which we disremember now.

Mr. J. L. Alberger has a patented machine for rendering lard, &c. In this process the lard is tried much better than by any other means, and brings a higher price in the market than that tried in the old way. H. O. Perry, for propeller wheels, steam valves, and other steam machines, large quantities of which are made at the Shepard Works. David Bell, for propeller wheels. Doctor J. Firmenich, for an improved Faucet, with gutta percha tube, a tip-top invention; has orders already for more than he can manufacture.

Some of these patents have been procured through the patent agency office of E. B. Forbush, Esq. There are also two other patent agencies in this city: that of J. Fraser & Co., being a branch of a Rochester house; as also Mr. Charles Rogers, a gentleman who, for four years, was one of the examiners of patents in Washington; each of whom are doing a good business in the agency line.

From Mr. Fraser, we learn of a patent granted to Hiram C. Sherman of this city, for a valuable improvement in driving hoops on barrels. This machine is in use in Mr. Truscott's distillery, and is found to be an almost invaluable instrument for that purpose, doing it much faster and far better than by hand. Mr. Bernard Dascomb invented a valuable improvement in the process of manufacturing starch, in which steam is made to supersede the old process of fermentation to separate the fecula from the grain. It shortens the process from ten days to about thirty-six hours, on the average. It is now in successful operation in New York City, in an extensive starch factory. James McNamara is the inventor of a machine for hoisting brick and mortar in the construction of buildings, which does the work of twenty men. It was used in building the chimney of the Watson Elevator, and the cupola of the Union Iron Works of this city.

We have not, of course, given a hundredth part of the patents issued to the inventors of Buffalo. We have aimed only to give a few of the important ones in actual use giving employment to labor. There are a great number of patents of merit, waiting only the necessary capital to develop their value; for instance, Captain G. W. Talcott's wrecking apparatus, for which letters patent have been granted, is pronounced by nautical men as the best contrivance yet discovered for recovering wrecked vessels and their cargoes. There has also a patent been granted to J. Fraser and James Calkins for a fire proof tank, which is said will protect the oil, and fire may be all around it and the tank heated to redness, and no explosion or leakage. In view of the immense amount of loss by fire and leakage of petroleum oil, this must prove of great value to oil men, and for the safe storage of oil.

Last, but not least, in the way of inventors, must be placed the name of Mr. F. S. Pease. This gentleman is as full of inventive genius, as the saying is "an egg is full of meat." We knew him thirty years ago, a smart, active young man then, a clerk in a dry goods house. At that time it was proverbial among the boys that Frank was

fixing up for some invention or ingenious contrivance all the while. About this period, Daguerre had published in France something of his discovery. Pease heard of it and set to work, and with his iodine, a cigar box, a piece of silver plate that he took from a coach lantern, he daguerreotyped the old wooden store of G. & T. Weed, on the corner of Swan street and Main. We believe this was about the first attempt in this country in transform images by Daguerre's plan. It was some time after, that the inventor came to this country. We mention this as an incident, merely to show how quick Mr. Pease was to catch an idea in his youthful days.

Six months or more before Morse made his wonderful discovery of transmitting intelligence by electricity, Mr Pease had a caveat filed in Washington, where it now remains, for a discovery for printing by means of an electrical current; a long notice of the invention was published at the time in the *Commercial Advertiser* of this city. Amos Kendall was Mr. Morse's friend, and Mr. Pease was written to from Washington, asking how he dared to apply for a patent when Mr. Morse was applying for the same thing. Amos Kendall was powerful, Mr. Pease was unknown and poor. Professor Morse got the patent, as well as the fame that has followed its introduction and success. Mr. P. is the inventor of a superheated steam generator. We shall hear more of this invention by and by. His "Atmospheric and Hydrostatic Pump," is pronounced a valuable invention for oil wells, mines, &c. It is estimated by the best authority that through a two inch pipe, it will pump two thousand barrels, and one of three inches, eight thousand barrels can be pumped in a day. This invention has been patented in the United States, England and France.

What we intend to speak of more particularly, (and which we fear we shall say the least of,) is the patent Mr. Pease has secured for his various illuminating and lubricating oils. He has been in the oil business for sixteen years, and is perhaps better and more widely known in that line than any man in this country. His different oils have become standard articles, not only in the United States, but in Europe. In London, at the World's Fair, where he was met by a large number of competitors, he was awarded two prize medals for his oils. Who would ask a greater or better testimonial?

At the coming French Exposition, Mr. Pease is already booked for a niche for his specimens, being the *first* American citizen to register his intention to exhibit samples of American art, invention, and production, at that Fair. Ink and type have no terror for a genius like Mr. P. There is no man in the country that comprehends their power and is a better friend to them than him.

While writing these pages, we had occasion to witness a very important discovery, which has just been made by Doctor Firmenich, of this city, and which if it proves a success will lessen the cost of running steam engines at least thirty-five per cent. The invention consists of a process for converting gases into fuel by means of a fan attached to a blower, whereby all the oxygen and smoke are entirely turned to account. The smoke being forced continually through the fuel in the grate by means of the blower. It is an invention of no ordinary moment, considering the high price of fuel. That a large saving is produced by this process, is demonstrated, even in the very imperfect manner in which it has been tested in the past two or three weeks. If this invention should realize the Doctor's anticipation, it will produce a revolution in the price of fuel for steam purposes.

It will be seen that the inventors are almost as invaluable a class as the manufacturers themselves. A very interesting chapter could be written on the inventors of Buffalo, but our space is limited, and we must drop the subject, without further apology.

SOME SUGGESTIONS AS TO THE KINDS OF MANUFACTURING BUSINESS THAT WOULD PAY TO ESTABLISH HERE.

Before concluding our imperfect sketch of the industries of our city, we wish briefly to call the attention of capitalists to a few branches of manufactures that could be profitably established at this point. For instance—

ZINC SMELTING.

All along the course of the Wisconsin river, and throughout Southwestern Wisconsin, there are hundreds of abandoned lead diggings. In digging for lead in these numerous shafts, large amounts of Zinc Ores (locally termed Horsebone) were extracted with the Galena, and thrown aside by the miners as worthless, and now lie there. This substance, which was looked upon as a curse by the lead miners, may be turned to as profitable account as if it was rich lead ore. Thousands on thousands of tons of this zinc ore can be had for a mere trifle. It can be brought from the Mississippi and the banks of the Wisconsin by water to Green Bay, and by vessels here, at low cost for transportation. Zinc, we are told, is extracted from these ores at Ottawa, in Illinois, and much of it brought here for sale. The cost of bringing the ores here by our cheap water transportation, would probably be less than to any other point where low priced fuel can be had. Beyond any question this is a good point for Zinc Smelting. So long as lead is mined in Wisconsin and Iowa, zinc ores will be produced in great abundance; the supply may be considered inexhaustible.

OIL OF VITRIOL, AND HOW TO MAKE IT.

There will be henceforth a steady and increasing demand for Sulphuric Acid, which is sometimes called Oil of Vitriol. It is the most important of all the chemical agents, and an indispensable one in making carbonate of soda for the Glass maker, and in the Petroleum Refinery, and for many other processes. The supply for the numerous Refineries, which have sprung up all around the vicinity of the oil region, is brought from New York and Philadelphia chiefly. Recently its manufacture has been commenced in Pittsburgh.

Our city is, perhaps, the best location for works for the production of Sulphuric Acid to be found in the Lake Basin; or would surely be so, if we had suitable Glass Works for the making of the vessels to hold it. There can be but little doubt that the demand for Oil of Vitriol, if produced here, would at once tax the capacity of a great establishment. The production of Sulphuric Acid is simple and easy; the apparatus is not expensive. It is made by the combustion of sulphur and a small portion of nitre, in large leaden laid chambers, whose vapors are intermingled and supplied with the requisite aqueous vapors by means of a jet of steam generated under a pressure of forty pounds to the inch. Both sulphur and nitre are mainly imported from abroad, and are as accessible to this locality as to any other. When our pyritous ores and shales are wrought for their sulphur, we will be independent of foreign supply, and this will be before long. Here is another use for coal to raise the requisite steam for the making of Sulphuric Acid. Let us say what we will on the subject of manufactures, we come round in the end to the item of fuel. It shows how little can be done, practically, anywhere in the way of making things without cheap fuel. It has been happily remarked, that the civilization of the people can be measured by the amount of Sulphuric Acid they produce.

GLASS MAKING.

There is no place in all the country, not already the seat of a glass manufactory, where one is so much needed as here; neither is there anywhere a more fitting location for such establishments. Every material which enters into the composition of glass, can cheaply be brought here. West of this, near Monroe and Mount Clemens, in Michigan, beds of fine white sand abound, very accessible, and it is presumable such

sands will be found in numerous other localities on the Western waters, in the regions which are now for the first time since the advent of the white man, being thoroughly explored. Thousands of barrels of white quartz sands are transported to Pittsburgh and other places, through our city every year, for use in their Glass Works, from the banks of Lake Champlain, by cheap canal transportation. South and southeast of us, near the coal formations of Pennsylvania, there is to be found abundance of white sand rock, such as is used in Bohemia, which, when burnt and pulverized, affords an excellent material for the glass maker, and which can be brought to our doors for a mere trifle. Lead and lime enter largely into the composition of glass wares, which can be brought here at very low cost. Salt, which, with Sulphuric Acid, makes the Carbonate of Soda, and with these materials and lime makes Soda Ash, is cheap and abundant here. Fuel is an important item in glass making; that we have here from the Pennsylvania coal mines in great abundance, and at as low prices as at any other point not immediately on a coal field. Our sources of supply will be numerous—from the Blossburgh mines, by the Buffalo & Washington R. R., by the Buffalo, Bradford & Pittsburgh R. R., and also by the Atlantic & Great Western Extension R. R. Coal is also being brought here by the State Line R. R., from their mines in Mercer County, in Pennsylvania. All these sources, in addition to our former ones from Erie and Cleveland by vessels. As regards fuel for glass making, and all other manufacturing purposes, we may rest easy, for we are hereafter to have a full supply and at the lowest prices.

Our great frame factories, and lantern factories, which jointly are doing a very large business, to say nothing of the use of glass and glass wares incident to a city of a hundred thousand people, alone would take all the products of a large glass house, affording such a one a home market for all it could produce.

There is at Lancaster, near this city, quite a considerable establishment, which finds a ready market here for its produce; also, another at Lockport, which is doing a flourishing business; and still our requirements are such that great amounts of glass are brought here from the West and the East, all of which could be made as cheaply here as at the places where it is made, as we are informed by persons familiar with the business.

The cheapness, ease and safety, with which so frail a commodity as glass can be sent to the markets of the West, by sail and steam vessels, of itself constitutes an element of success in the business.

Some of our Western friends may say of our talk about Manufactures in Buffalo that it is "blowing." There are people at the East, and in the Old Country, who are looking to the virgin fields of the West for opportunities to better themselves. How would such know anything of the advantages of the various localities if some one did not describe them? This sort of talk, "blowing," if you please, has had its influence in putting in motion the machinery of many large establishments in this city.

There is no doubt about glass making, iron making, iron founding, pottery and porcelain making, steel making, wire drawing, paper staining, steam engine making, machinery making, locomotive making, agricultural implement making, boot and shoe making, cutlery making, hardware making, paper making, oil cloth making, file making, nail making, woolen cloth making, musical instrument making, making of chemicals, tin plating, copper rolling.

CONCLUSION.

In concluding the second edition of the Manufacturing Interests of Buffalo, which has been published at the request of many of our citizens engaged and interested in the different branches of mechanical industry, we have endeavored in the time allotted to our task to collect such additional information as would be interesting to the general reader, as also in giving an account of some added industrial interests, which were unavoidably omitted in our first edition. We have a hope that when this present edition of seven thousand copies shall have been spread before the reading public outside of Buffalo, it may have an influence that will be felt and appreciated by our citizens. Our

endeavor has been to give the public, without exaggeration, in as plain and simple a manner as possible, a history of what is now being done in Buffalo, what is capable of being done here, and of what importance it is to our capitalists, land holders and every one who feels the least interest in the city's welfare, to use every exertion and all legitimate means to spread widely the manufacturing advantages we possess. If we shall have aided in the least in our somewhat disjointed attempt to bring to the attention of capitalists the necessity of a more extended effort in the manufacturing line, or if our feeble contribution shall stimulate an additional hand at the hammer, or an outlay of still another dollar in the glorious cause of labor, we will not have used our exertions in vain. Another year, if the public should demand a continuance of this publication, we may be induced to extend its pages, and endeavor to give a more readable and interesting exposition of our city's various and increasing industry.

THE COMMERCE OF BUFFALO.

It may be thought an omission, that a work like the present, should not contain a more detailed account of what may be thought *the* great leading interest of Buffalo,—its commerce. The principal object of this publication is, however, to endeavor to show to the world the great adaptability of Buffalo, as a manufacturing point. Our commercial importance has become a fixed fact. Buffalo has enjoyed the proud reputation of being the most extensive grain mart in the world. And it is undoubtedly conceded that in receipts and shipments alone, our city is still entitled to that proud pre-eminence.

For years it has been the practice of our principal daily papers to publish elaborate and comprehensive statements of our commerce, and as this practice is still kept up, we have been satisfied to content ourselves with the incidental notices of our commerce, as are contained in the admirable articles upon our general history, as written by Judge Clinton, continued by Dr. S. B. Hunt, formerly editor of the *Commercial Advertiser*, and concluded by Guy H. Salisbury, Esq., for many years connected with the daily press of this city.

We trust this explanation will be sufficient apology for what might seem a very great omission on our part. Another year, however, should this attempt of ours, in the publication of an annual work on the business of Buffalo be well received, we may give a full and comprehensive account of our receipts and shipments of grain and produce, together with complete lists of our shipping and other cognate matters.

NEWMAN'S

AKRON CEMENT COMPAN

Warehouse, Erie Basin Elevator.

QUICK LIME.

We are now manufacturing a superior quality of this article, which has been nounced by L. C. Woodruff, Esq., as the best in the city. We have capacity for turnin

Two Hundred Barrels Per Day,

And are now able to supply the demand.

This has become a very important item of trade in Buffalo; and as we have al room and facilities for handling the article, there will be no delay hereafter in filling o as fast as they come in.

Teams, from the country, can load and receive immediate despatch.

Address—

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[Office—No. 20 Central Wharf.]

See Page 83.